TWENTYSEVEN LAKE PIERCE COUNTY WRIA 11

T17N-R04E-27 LATITUDE 46° 55' 29" LONGITUDE 122° 17' 00"

PHYSICAL DATA

Drainage area	0.14	mi^2
Altitude	776	ft
Lake Area	17	acres
Lake Volume	180	acre-ft
Mean Depth	10	ft
Maximum Depth	18	ft
Shoreline Length	0.62	mi
Shoreline Configuration	1.1	
Development of Volume	0.57	
Bottom Slope	1.8	pct
Surface Inflow	No	
Surface Outflow	No	

CULTURAL DATA

Residential Development	15	pct
Number of Nearshore Homes	2	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	0	pct
Agricultural	28	pct
Forest or Unproductive	53	pct
Lake Surface	19	pct
Public Boat Access to Lake	No	

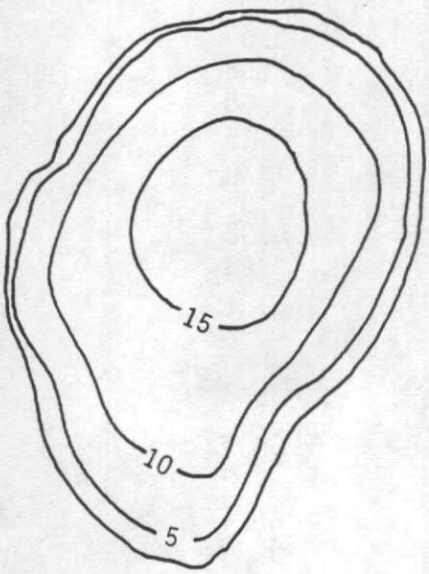
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

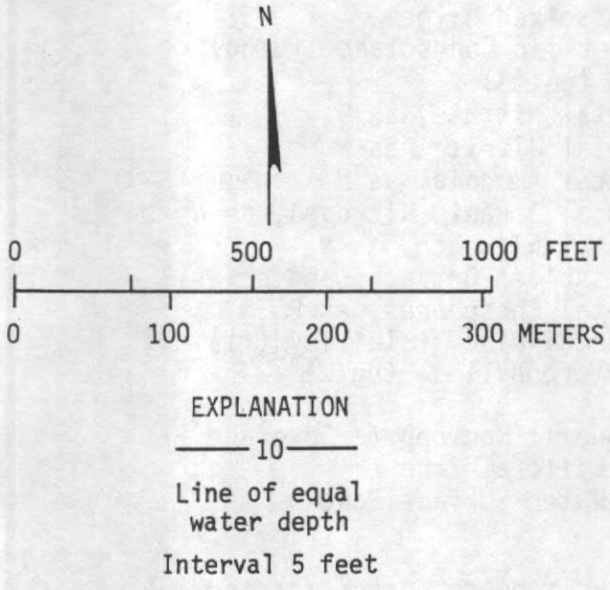
Date	July 21, 1981	
Depth (ft)	3	14
Water Temperature (°C)	20.1	16.0
Dissolved Oxygen	9.0	0.3
Specific Conductance (umho)	41	44
pH (units)	6.9	6.8
Total Nitrate, as N	0.01	.00
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.12	.14
Total Organic Nitrogen, as N	.62	.52
Total Nitrogen, as N	.75	.66
Dissolved Orthophosphate, as P	.03	.00
Total Phosphorus, as P	.00	.00
Secchi-Disc Visibility (ft)	14	
Chlorophyll a (ug/L)	3.07	--

Aquatic Macrophyte Coverage		
Littoral Zone	100	pct
Water-Surface Zone	20	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	74
Trophic State Index (Carlson, 1977)	
TSI_{SD}	39
TSI_{TP}	0
TSI_{Chl}	42





Twentyseven Lake, Pierce County. Photo taken April 3, 1973.
Bathymetric map from U.S. Geological Survey, June 13, 1973.

TWIN LAKE, NORTH | PIERCE COUNTY | WRIA 11

T17N-R04E-12 | LATITUDE 46o 58' 01" | LONGITUDE 122o 15' 00"

PHYSICAL DATA

Drainage area	0.76	mi^2
Altitude	600	ft
Lake Area	48	acres
Lake Volume	656	acre-ft
Mean Depth	14	ft
Maximum Depth	20	ft
Shoreline Length	1.2	mi
Shoreline Configuration	1.3	
Development of Volume	0.69	
Bottom Slope	1.2	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	10	pct
Number of Nearshore Homes	2	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	14	pct
Agricultural	15	pct
Forest or Unproductive	69	pct
Lake Surface	2	pct
Public Boat Access to Lake	No	

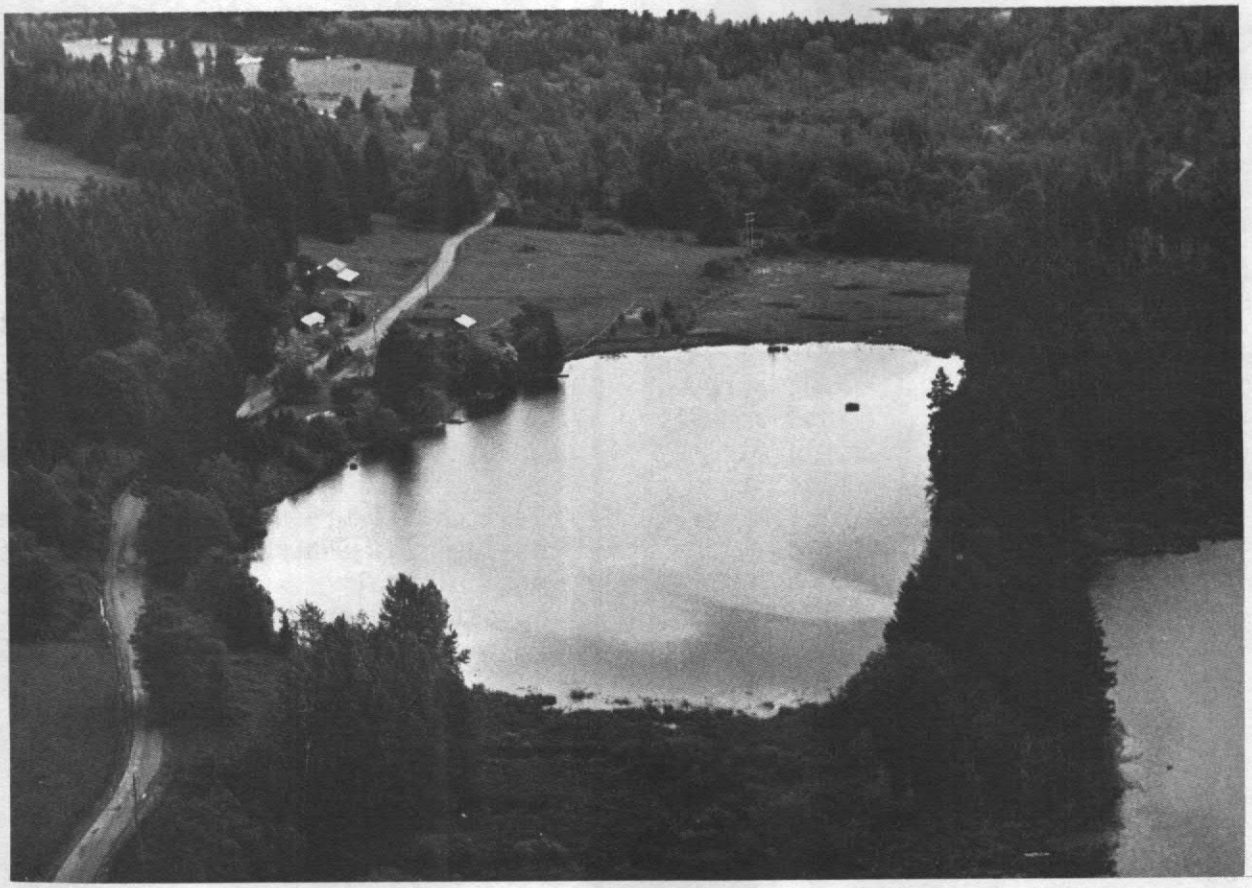
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

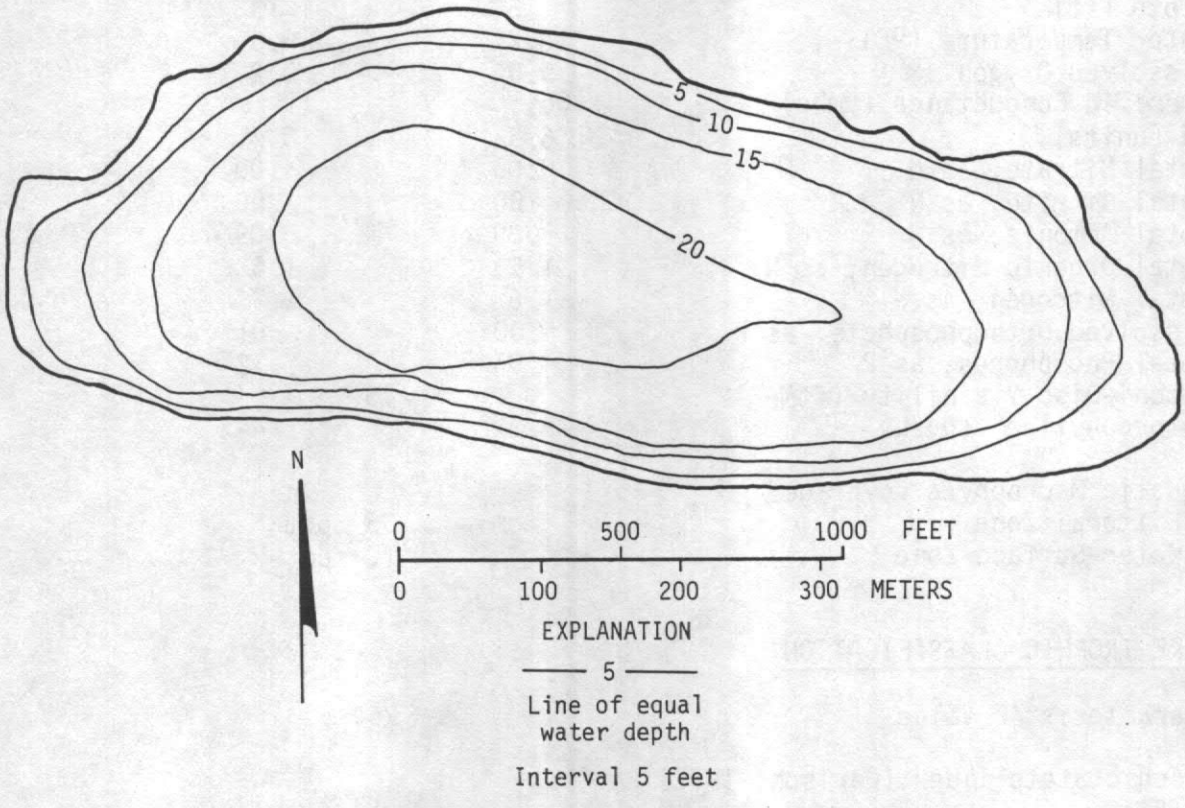
Date	June 3, 1981	
Depth (ft)	3	19
Water Temperature (oC)	18.3	8.0
Dissolved Oxygen	8.5	0.4
Specific Conductance (umho)	68	69
pH (units)	6.6	6.6
Total Nitrate, as N	0.00	.08
Total Nitrite, as N	.01	.00
Total Ammonia, as N	.11	.15
Total Organic Nitrogen, as N	1.6	1.7
Total Nitrogen, as N	1.7	1.9
Dissolved Orthophosphate, as P	.00	.02
Total Phosphorus, as P	.06	.08
Secchi-Disc Visibility (ft)	4	
Chlorophyll a (ug/L)	17.0	--

Aquatic Macrophyte Coverage		
Littoral Zone	50	pct
Water-Surface Zone	5	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	304
Trophic State Index (Carlson, 1977)	
TSI_{SD}	57
TSI_{TP}	63
TSI_{Chl}	58





Twin, North Lake, Pierce County. Photo taken June 3, 1981, view northeasterly. Bathymetric map from U.S. Geological Survey, May 27, 1981.

TWIN LAKE, SOUTH | PIERCE COUNTY | WRIA 11

T17N-R04E-13 | LATITUDE 46° 57' 57" | LONGITUDE 122° 15' 05"

PHYSICAL DATA

Drainage area	0.83	mi^2
Altitude	610	ft
Lake Area	43	acres
Lake Volume	459	acre-ft
Mean Depth	11	ft
Maximum Depth	16	ft
Shoreline Length	1.2	mi
Shoreline Configuration	1.4	
Development of Volume	0.65	
Bottom Slope	1.1	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	30	pct
Number of Nearshore Homes	13	

Land Use in Drainage Basin

Residential-Urban	0	pct
Residential-Suburban	13	pct
Agricultural	13	pct
Forest or Unproductive	70	pct
Lake Surface	4	pct

Public Boat Access to Lake: No

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

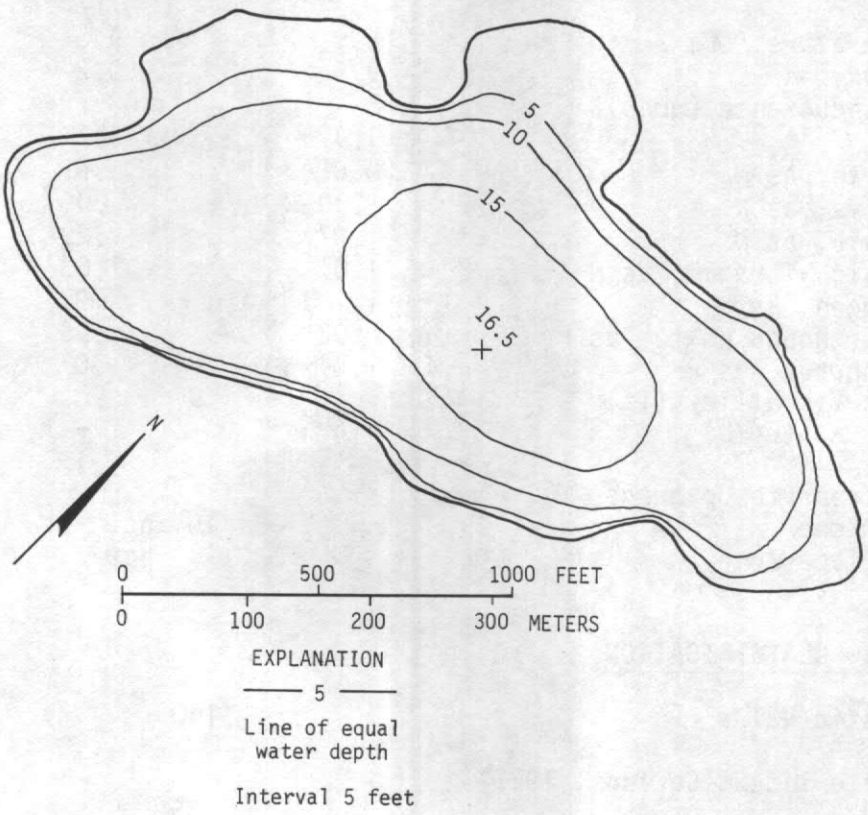
Date	June 3, 1981	
Depth (ft)	3	13
Water Temperature (°C)	18.2	9.3
Dissolved Oxygen	9.0	0.2
Specific Conductance (umho)	66	77
pH (units)	6.6	6.4
Total Nitrate, as N	0.00	.00
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.09	.09
Total Organic Nitrogen, as N	1.5	1.6
Total Nitrogen, as N	1.6	1.7
Dissolved Orthophosphate, as P	.00	.01
Total Phosphorus, as P	.05	.12
Secchi-Disc Visibility (ft)	5	
Chlorophyll *a* (ug/L)	15.7	--

Aquatic Macrophyte Coverage		
Littoral Zone	35	pct
Water-Surface Zone	10	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	264

Trophic State Index (Carlson, 1977)	
TSI_{SD}	54
TSI_{TP}	61
TSI_{Chl}	58



Twin, South Lake, Pierce County. Photo taken June 3, 1981, view northeasterly. Bathymetric map from U.S. Geological Survey, May 27, 1981.

WHITMAN LAKE | PIERCE COUNTY | WRIA 11

T17N-R04E-14 | LATITUDE 46° 57' 54" | LONGITUDE 122° 15' 18"

PHYSICAL DATA

Drainage area	0.97	mi^2
Altitude	601	ft
Lake Area	30	acres
Lake Volume	350	acre-ft
Mean Depth	12	ft
Maximum Depth	20	ft
Shoreline Length	0.95	mi
Shoreline Configuration	1.2	
Development of Volume	0.58	
Bottom Slope	1.5	pct
Surface Inflow	No	
Surface Outflow	No	

CULTURAL DATA

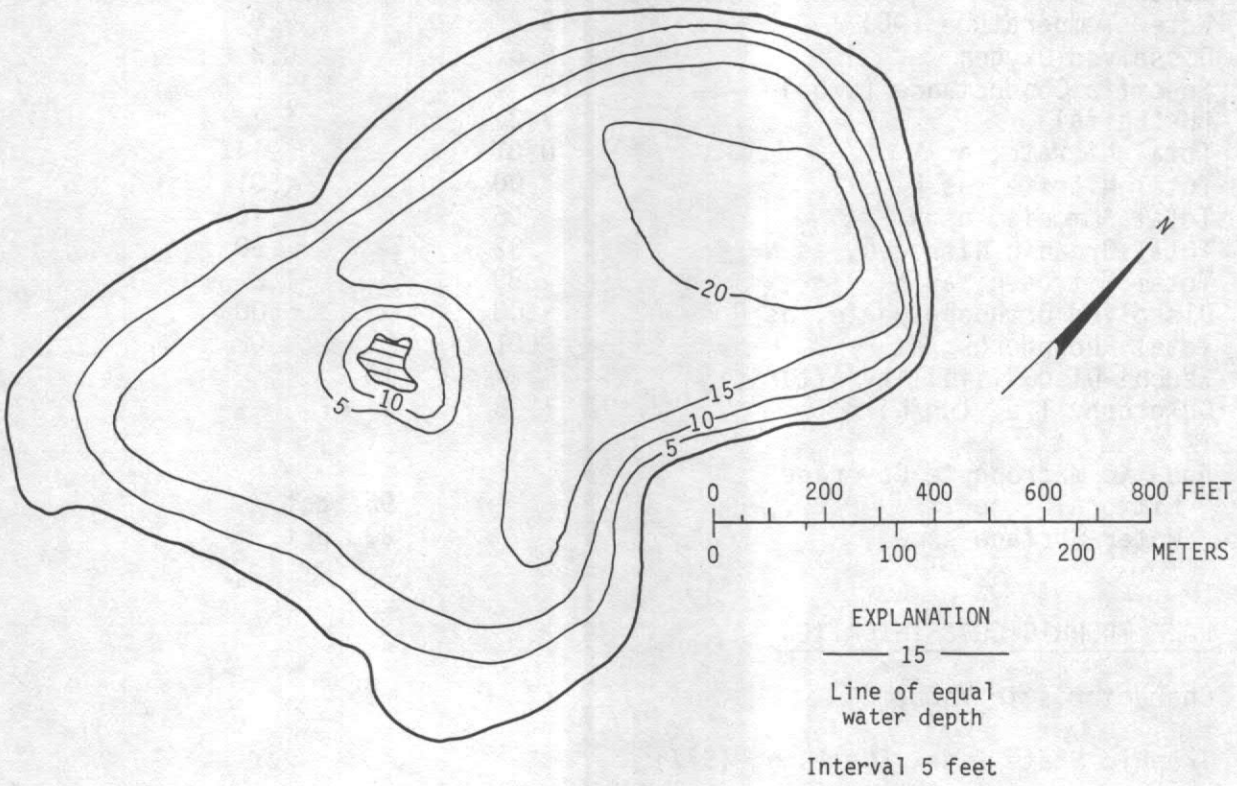
Residential Development	85	pct
Number of Nearshore Homes	49	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	5	pct
Agricultural	27	pct
Forest or Unproductive	63	pct
Lake Surface	5	pct
Public Boat Access to Lake	Yes	

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	June 23, 1981	
Depth (ft)	3	17
Water Temperature (oC)	16.9	9.5
Dissolved Oxygen	9.5	0.2
Specific Conductance (umho)	78	108
pH (units)	7.4	6.7
Total Nitrate, as N	0.01	.01
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.07	.29
Total Organic Nitrogen, as N	1.0	.63
Total Nitrogen, as N	1.1	.93
Dissolved Orthophosphate, as P	.02	.03
Total Phosphorus, as P	.04	.07
Secchi-Disc Visibility (ft)	9	
Chlorophyll *a* (ug/L)	4.6	--
Aquatic Macrophyte Coverage		
Littoral Zone	40 pct	
Water-Surface Zone	10 pct	

LAKE TROPHIC CLASSIFICATION

Characteristic Value	140
Trophic State Index (Carlson, 1977)	
TSI_{SD}	45
TSI_{TP}	57
TSI_{Chl}	46



Whitman (17N-4E-14) Lake, Pierce County. Photo taken June 23, 1981, view northwesterly. Bathymetric map from U.S. Geological Survey, May 2, 1973.

CLEAR LAKE SKAGIT COUNTY WRIA 03

T34N-R05E-07 LATITUDE 48° 27' 15" LONGITUDE 122° 13' 26"

PHYSICAL DATA

Drainage area	2.40	mi^2
Altitude	30	ft
Lake Area	200	acres
Lake Volume	4,600	acre-ft
Mean Depth	23	ft
Maximum Depth	44	ft
Shoreline Length	2.4	mi
Shoreline Configuration	1.2	
Development of Volume	0.52	
Bottom Slope	1.3	pct
Surface Inflow	Yes	
Surface Outflow	No	

CULTURAL DATA

Residential Development	25	pct
Number of Nearshore Homes	9	
Land Use in Drainage Basin		
Residential-Urban	5	pct
Residential-Suburban	4	pct
Agricultural	24	pct
Forest or Unproductive	54	pct
Lake Surface	13	pct
Public Boat Access to Lake	Yes	

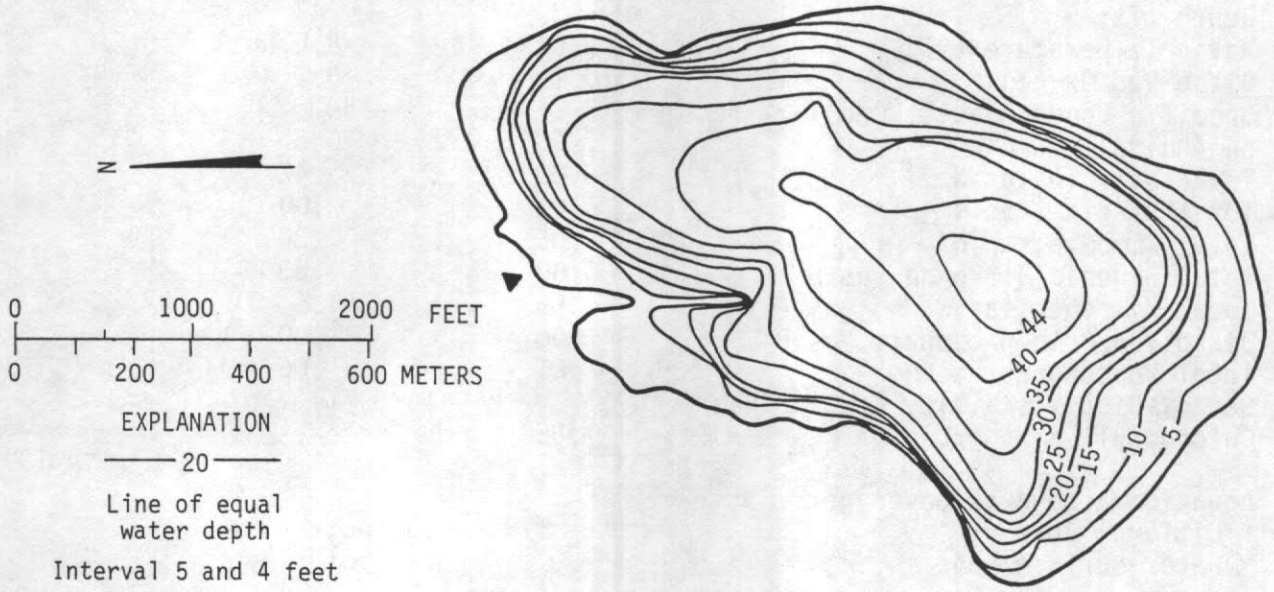
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 9, 1981	
Depth (ft)	3	39
Water Temperature (°C)	19.2	9.8
Dissolved Oxygen	9.6	0.2
Specific Conductance (umho)	68	75
pH (units)	7.2	6.7
Total Nitrate, as N	0.01	.14
Total Nitrite, as N	.00	<.01
Total Ammonia, as N	.06	.10
Total Organic Nitrogen, as N	.82	.90
Total Nitrogen, as N	.89	1.2
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.01	.02
Secchi-Disc Visibility (ft)	15	
Chlorophyll a (ug/L)	1.98	--

Aquatic Macrophyte Coverage		
Littoral Zone	95	pct
Water-Surface Zone	20	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	86
Trophic State Index (Carlson, 1977)	
TSI_{SD}	38
TSI_{TP}	37
TSI_{Chl}	37



Clear (34N-5E-7) Lake, Skagit County. Photo taken June 2, 1978.
Bathymetric map from Washington Department of Game, June 28, 1948.

MCMURRAY LAKE SKAGIT COUNTY WRIA 03

T33N-R05E-30 LATITUDE 48° 19' 28" LONGITUDE 122° 13' 22"

PHYSICAL DATA

Drainage area	3.25	mi^2
Altitude	158	ft
Lake Area	160	acres
Lake Volume	4,500	acre-ft
Mean Depth	29	ft
Maximum Depth	52	ft
Shoreline Length	2.6	mi
Shoreline Configuration	1.5	
Development of Volume	0.56	
Bottom Slope	1.8	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	50	pct
Number of Nearshore Homes	50	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	3	pct
Agricultural	11	pct
Forest or Unproductive	79	pct
Lake Surface	7	pct
Public Boat Access to Lake	Yes	

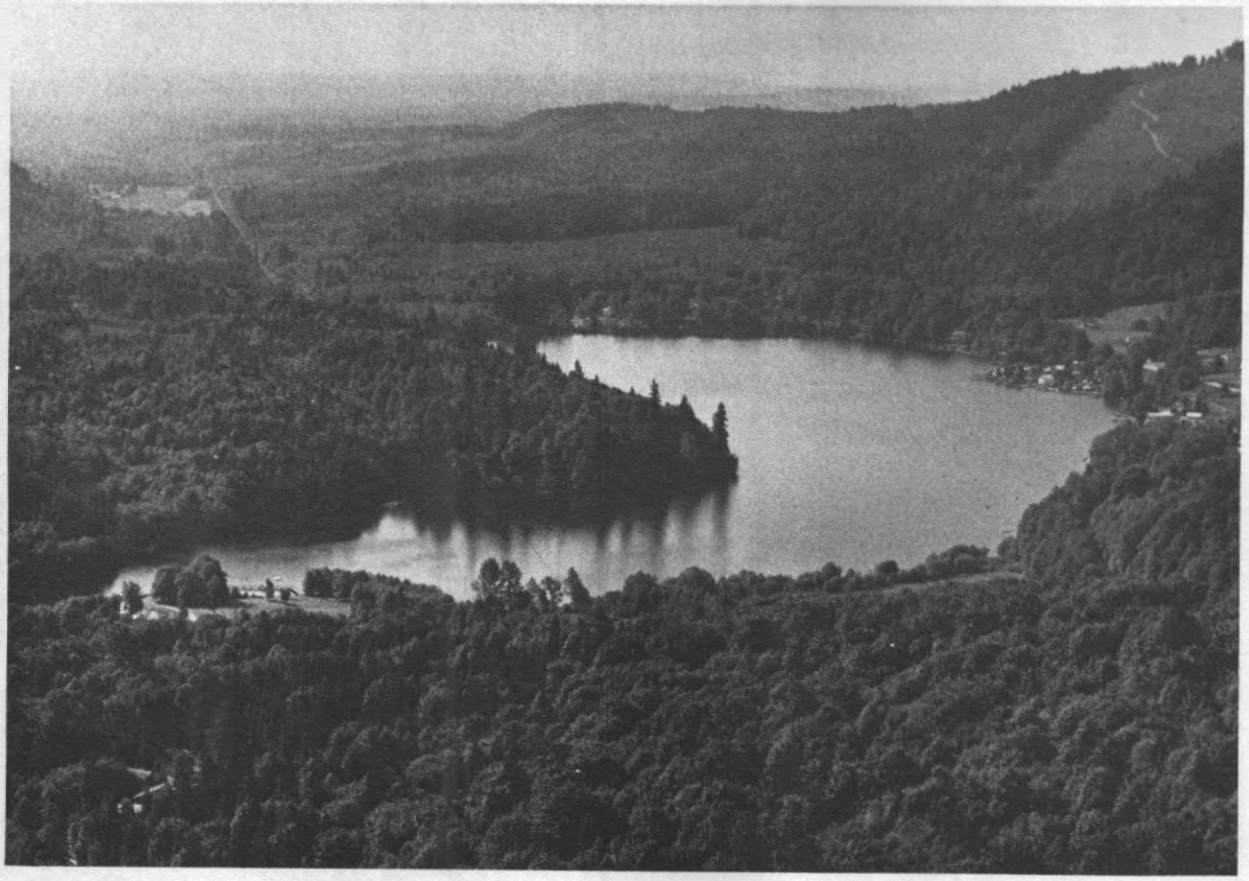
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

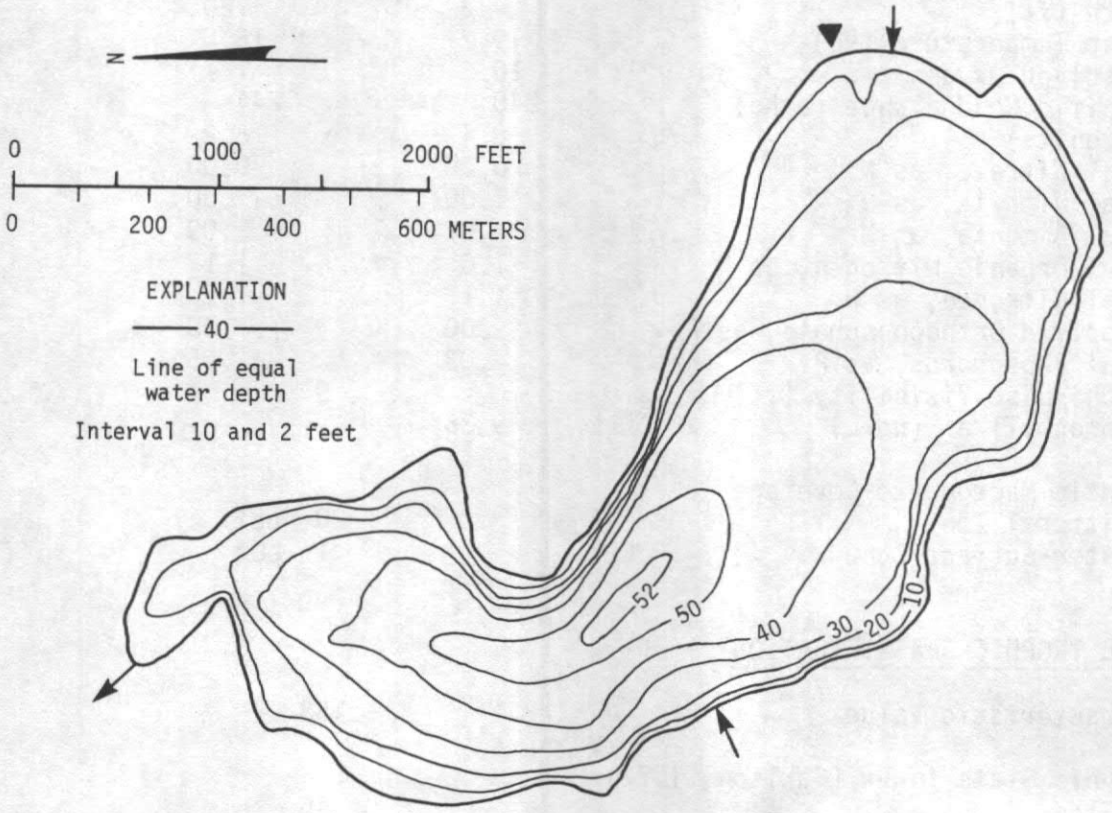
Date	July 9, 1981	
Depth (ft)	3	43
Water Temperature (°C)	18.6	8.0
Dissolved Oxygen	10.1	0.2
Specific Conductance (umho)	73	84
pH (units)	7.4	6.6
Total Nitrate, as N	0.00	.42
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.05	.30
Total Organic Nitrogen, as N	.80	.63
Total Nitrogen, as N	.85	1.4
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.01	.06
Secchi-Disc Visibility (ft)	14	
Chlorophyll a (ug/L)	1.86	--

Aquatic Macrophyte Coverage		
Littoral Zone	10	pct
Water-Surface Zone	<1	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value (Bortleson, 1978)	86
Trophic State Index (Carlson, 1977)	
TSI_{SD}	39
TSI_{TP}	37
TSI_{Chl}	37





McMurray Lake, Skagit County. Photo taken July 9, 1981, view southeasterly. Bathymetric map from Washington Department of Game, March 10, 1956.

PASS LAKE SKAGIT COUNTY WRIA 03

T34N-R01E-23 LATITUDE 48° 25' 01" LONGITUDE 122° 38' 30"

PHYSICAL DATA

Drainage area	0.61	mi^2
Altitude	130	ft
Lake Area	98	acres
Lake Volume	1,500	acre-ft
Mean Depth	15	ft
Maximum Depth	20	ft
Shoreline Length	1.9	mi
Shoreline Configuration	1.3	
Development of Volume	0.77	
Bottom Slope	0.86	pct
Surface Inflow	Yes	
Surface Outflow	No	

CULTURAL DATA

Residential Development	5	pct
Number of Nearshore Homes	1	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	0	pct
Agricultural	9	pct
Forest or Unproductive	66	pct
Lake Surface	25	pct
Public Boat Access to Lake	Yes	

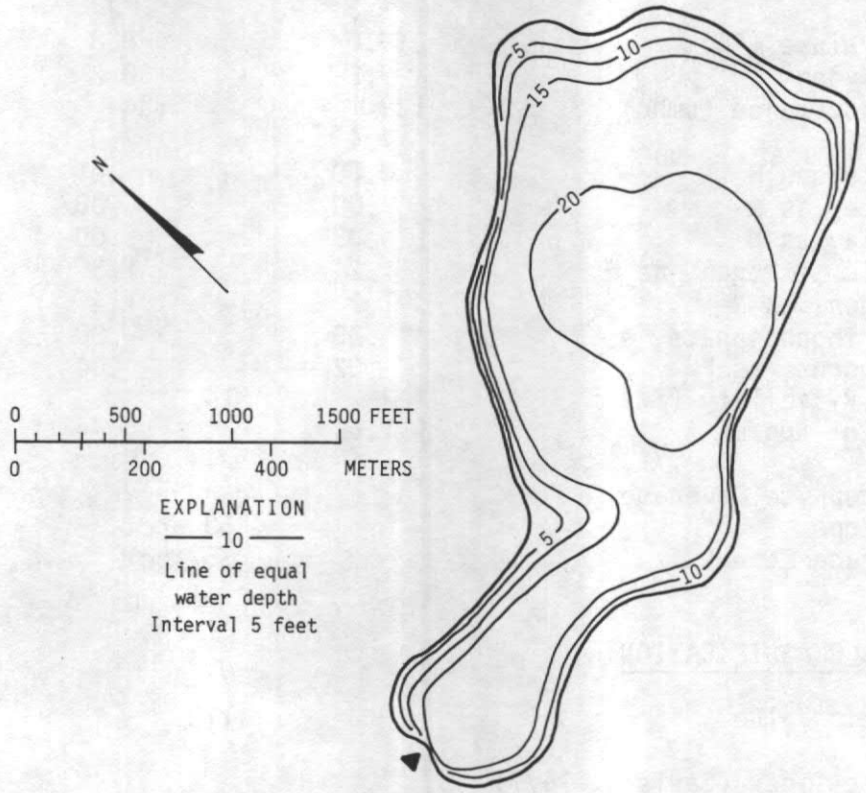
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 9, 1981	
Depth (ft)	3	20
Water Temperature (°C)	19.2	18.0
Dissolved Oxygen	10.5	1.7
Specific Conductance (umho)	240	244
pH (units)	8.4	8.2
Total Nitrate, as N	0.00	0.00
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.07	.09
Total Organic Nitrogen, as N	1.0	1.1
Total Nitrogen, as N	1.1	1.2
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.03	.05
Secchi-Disc Visibility (ft)	9	
Chlorophyll *a* (ug/L)	9.36	--

Aquatic Macrophyte Coverage	
Littoral Zone	20 pct
Water-Surface Zone	<1 pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	153
Trophic State Index (Carlson, 1977)	
TSI_{SD}	45
TSI_{TP}	53
TSI_{Chl}	53



Pass Lake, Skagit County. Photo taken July 9, 1981, view northeasterly. Bathymetric map from Washington Department of Game, June 14, 1940.

TRAFTON (BESTS) LAKE SKAGIT COUNTY WRIA 03

T34N-R01E-14 LATITUDE 48° 26' 13" LONGITUDE 122° 38' 32"

PHYSICAL DATA

Drainage area	0.26	mi^2
Altitude	382	ft
Lake Area	14	acres
Lake Volume	238	acre-ft
Mean Depth	17	ft
Maximum Depth	38	ft
Shoreline Length	0.61	mi
Shoreline Configuration	1.2	
Development of Volume	0.44	
Bottom Slope	4.3	pct
Surface Inflow	No	
Surface Outflow	No	

CULTURAL DATA

Residential Development	0	pct
Number of Nearshore Homes	0	

Land Use in Drainage Basin

Residential-Urban	0	pct
Residential-Suburban	3	pct
Agricultural	9	pct
Forest or Unproductive	79	pct
Lake Surface	9	pct

Public Boat Access to Lake Yes

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

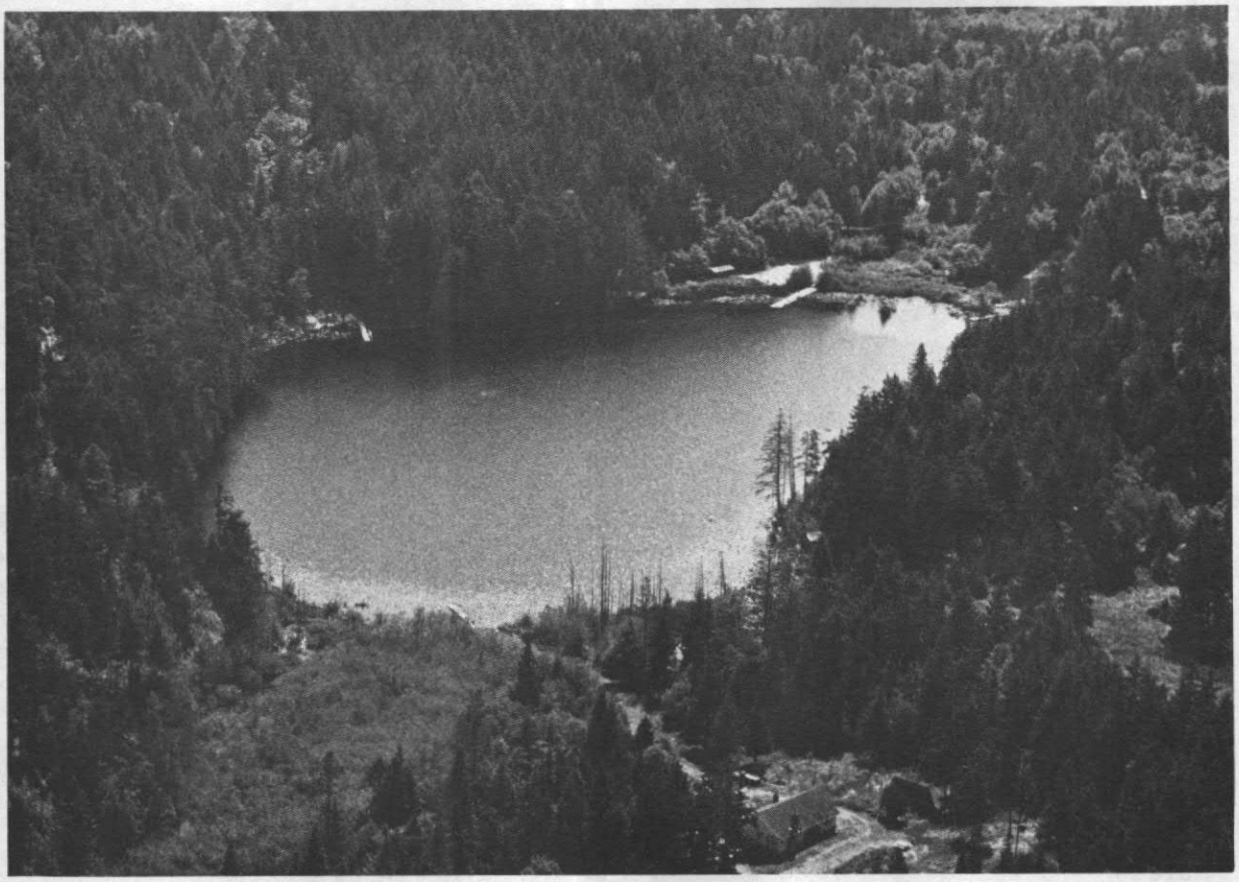
Date	July 9, 1981	
Depth (ft)	3	24
Water Temperature (°C)	19.0	8.8
Dissolved Oxygen	9.2	0.2
Specific Conductance (umho)	129	134
pH (units)	7.4	7.0
Total Nitrate, as N	0.00	.01
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.03	.09
Total Organic Nitrogen, as N	1.2	1.3
Total Nitrogen, as N	1.2	1.4
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.02	.04
Secchi-Disc Visibility (ft)	14	
Chlorophyll a (ug/L)	1.64	--

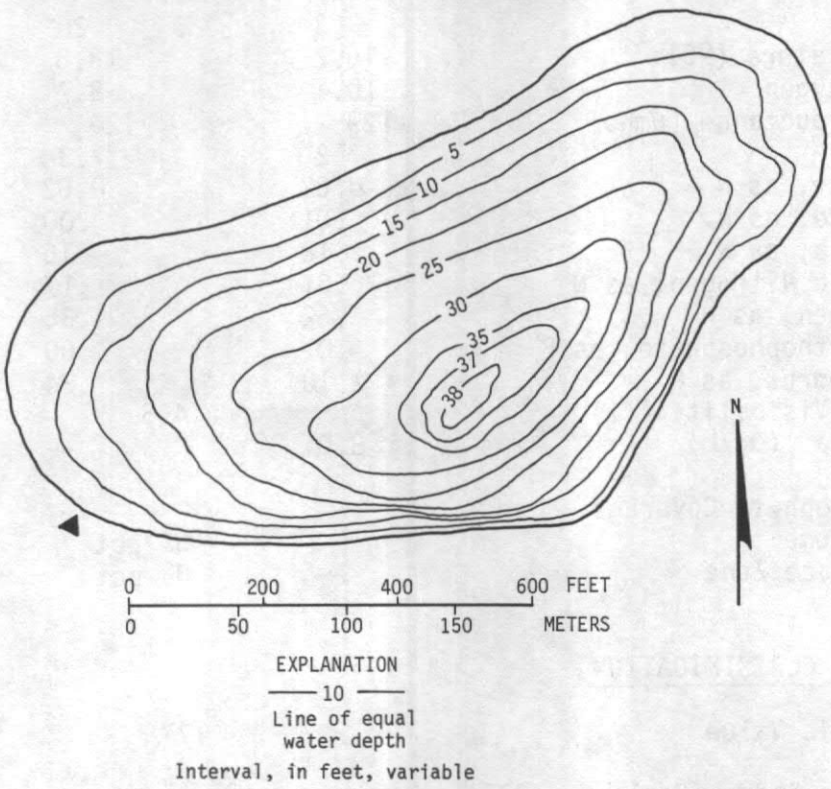
Aquatic Macrophyte Coverage		
Littoral Zone	60	pct
Water-Surface Zone	5	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	118

Trophic State Index (Carlson, 1977)	
TSI_{SD}	39
TSI_{TP}	47
TSI_{Chl}	35





Trafton (Bests) Lake, Skagit County. Photo taken July 9, 1981, view southwesterly. Bathymetric map from U.S. Geological Survey, June 16, 1981.

ASHES LAKE | SKAMANIA COUNTY | WRIA 29

T02N-R07E-11 | LATITUDE 45° 40' 16" | LONGITUDE 121° 54' 51"

PHYSICAL DATA

Drainage area	3.82	mi^2
Altitude	75	ft
Lake Area	54	acres
Lake Volume	740	acre-ft
Mean Depth	14	ft
Maximum Depth	25	ft
Shoreline Length	1.5	mi
Shoreline Configuration	1.5	
Development of Volume	0.55	
Bottom Slope	1.4	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	0	pct
Number of Nearshore Homes	0	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	0	pct
Agricultural	0	pct
Forest or Unproductive	98	pct
Lake Surface	2	pct
Public Boat Access to Lake	No	

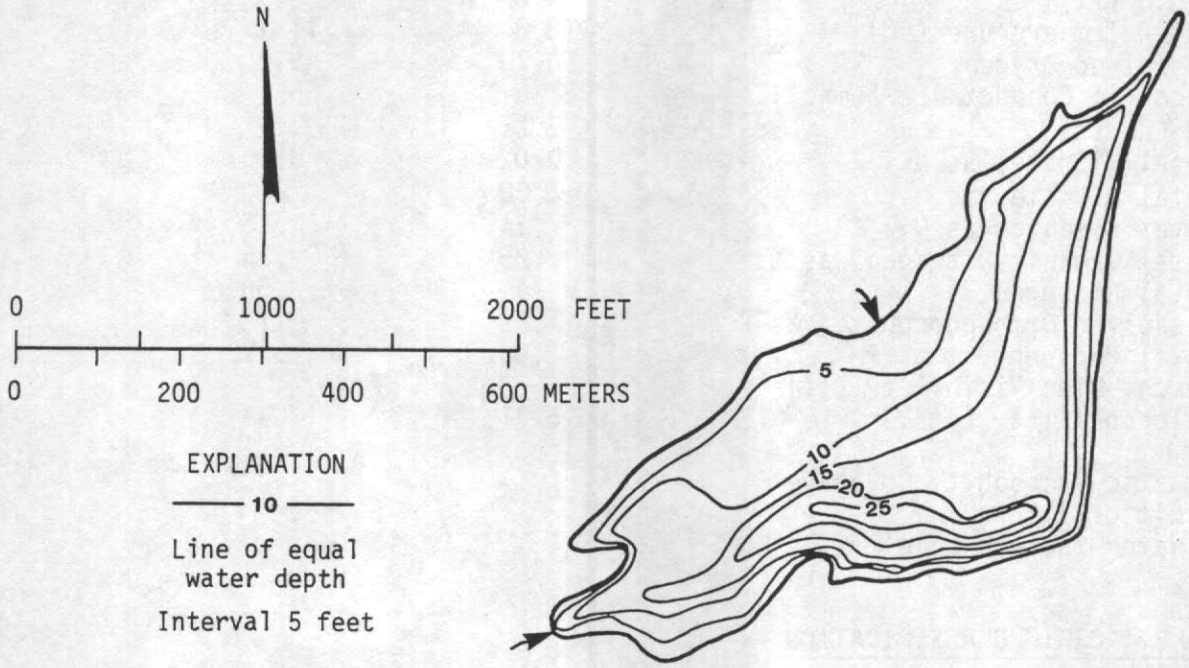
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	June 16, 1981	
Depth (ft)	3	20
Water Temperature (°C)	16.2	13.8
Dissolved Oxygen	10.4	8.7
Specific Conductance (umho)	129	120
pH (units)	7.2	7.3
Total Nitrate, as N	0.02	0.02
Total Nitrite, as N	.01	.00
Total Ammonia, as N	.18	.16
Total Organic Nitrogen, as N	.31	.17
Total Nitrogen, as N	.52	.35
Dissolved Orthophosphate, as P	.01	.00
Total Phosphorus, as P	.10	.34
Secchi-Disc Visibility (ft)	4.5	
Chlorophyll a (ug/L)	8.04	--

Aquatic Macrophyte Coverage	
Littoral Zone	<5 pct
Water-Surface Zone	0 pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	177
Trophic State Index (Carlson, 1977)	
TSI_{SD}	55
TSI_{TP}	71
TSI_{Chl}	51



Ashes Lake, Skamania County. Photo taken June 24, 1974.
Bathymetric map from Washington Department of Game, November 24, 1947.

GREENLEAF LAKE SKAMANIA COUNTY WRIA 28

T02N-R07E-20 LATITUDE 45o 38' 36" LONGITUDE 121o 58' 33"

PHYSICAL DATA

Drainage area	7.53	mi^2
Altitude	65	ft
Lake Area	54	acres
Lake Volume	600	acre-ft
Mean Depth	11	ft
Maximum Depth	24	ft
Shoreline Length	2.9	mi
Shoreline Configuration	2.9	
Development of Volume	0.46	
Bottom Slope	1.4	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	10	pct
Number of Nearshore Homes	13	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	<1	pct
Agricultural	<1	pct
Forest or Unproductive	99	pct
Lake Surface	1	pct
Public Boat Access to Lake	Yes	

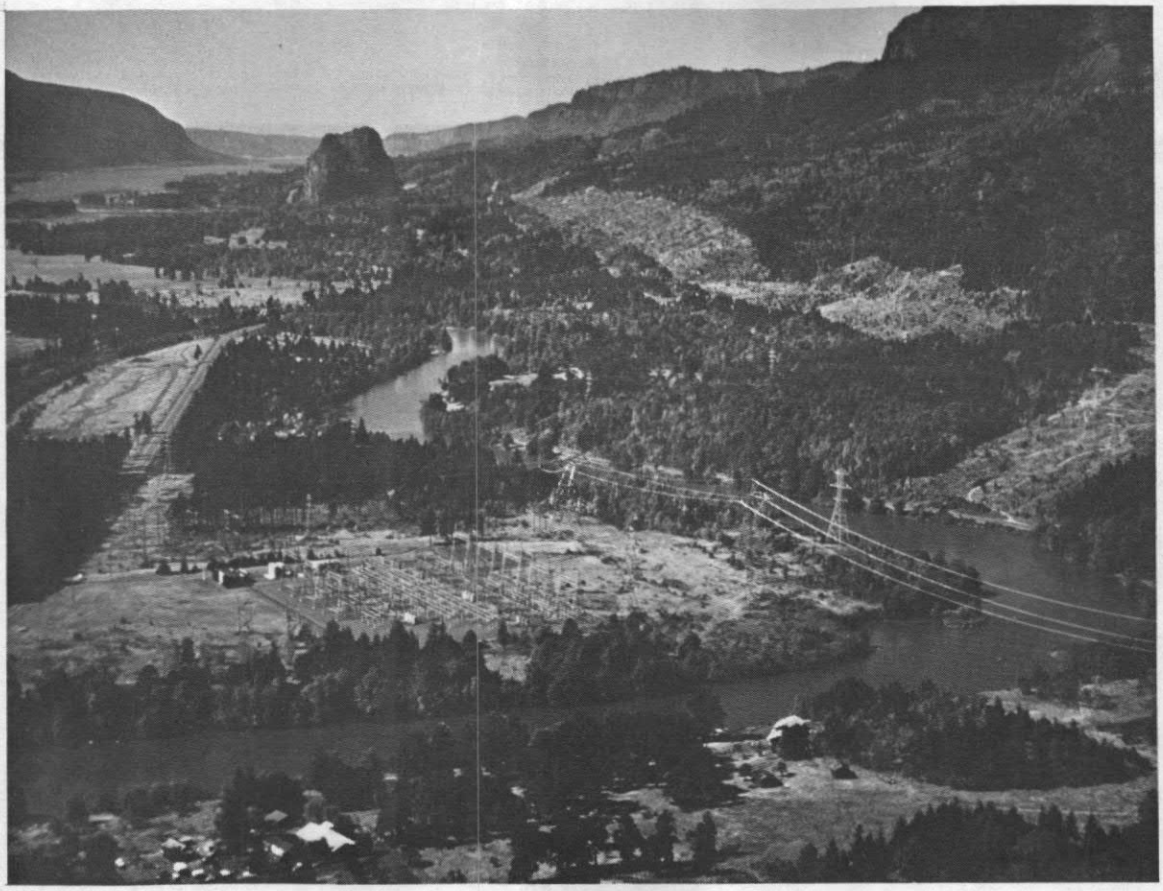
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

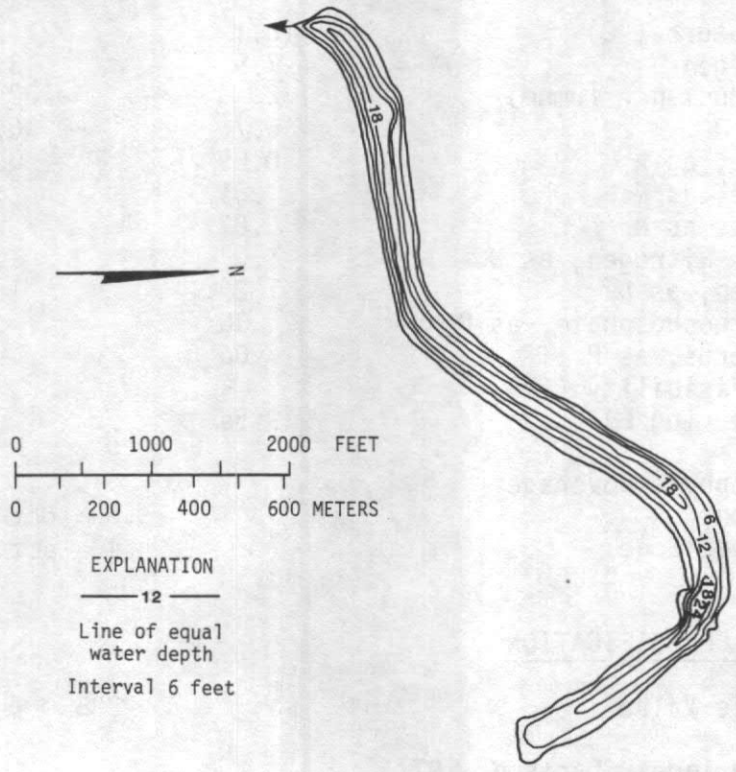
Date	June 16, 1981	
Depth (ft)	3	19
Water Temperature (oC)	13.3	11.1
Dissolved Oxygen	10.7	9.2
Specific Conductance (umho)	87	65
pH (units)	7.2	7.1
Total Nitrate, as N	0.02	0.06
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.14	.16
Total Organic Nitrogen, as N	.25	.36
Total Nitrogen, as N	.41	.58
Dissolved Orthophosphate, as P	.02	.12
Total Phosphorus, as P	.06	.12
Secchi-Disc Visibility (ft)	7	
Chlorophyll a (ug/L)	5.31	--

Aquatic Macrophyte Coverage	
Littoral Zone	5 pct
Water-Surface Zone	<5 pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	110
Trophic State Index (Carlson, 1977)	
TSI_{SD}	49
TSI_{TP}	63
TSI_{Chl}	47





Greenleaf Lake, Skamania County. Photo taken September 1974, view southwesterly. Bathymetric map from Washington Department of Game, July 6, 1946.

BEECHER LAKE | SNOHOMISH COUNTY | WRIA 07

T27N-R06E-07 | LATITUDE 47° 50' 37" | LONGITUDE 122° 05' 15"

PHYSICAL DATA

Drainage area	4.65 mi^2
Altitude	13 ft
Lake Area	20 acres
Lake Volume	105 acre-ft
Mean Depth	5 ft
Maximum Depth	10 ft
Shoreline Length	1.6 mi
Shoreline Configuration	2.4
Development of Volume	0.51
Bottom Slope	0.94 pct
Surface Inflow	Yes
Surface Outflow	No

CULTURAL DATA

Residential Development	20	pct
Number of Nearshore Homes	9	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	8	pct
Agricultural	29	pct
Forest or Unproductive	62	pct
Lake Surface	1	pct
Public Boat Access to Lake	No	

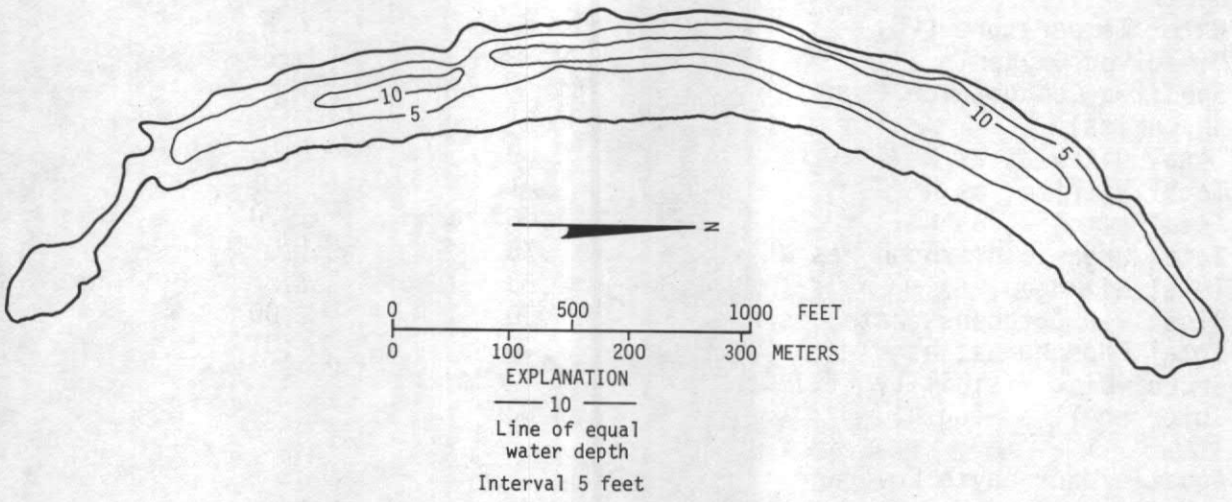
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 6, 1981	
Depth (ft)	3	6
Water Temperature (°C)	16.1	14.2
Dissolved Oxygen	7.9	3.0
Specific Conductance (umho)	132	132
pH (units)	6.7	6.6
Total Nitrate, as N	0.09	0.06
Total Nitrite, as N	.01	.01
Total Ammonia, as N	.07	.09
Total Organic Nitrogen, as N	1.0	1.0
Total Nitrogen, as N	1.2	1.2
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.06	.09
Secchi-Disc Visibility (ft)	4	
Chlorophyll *a* (ug/L)	9.54	--

Aquatic Macrophyte Coverage		
Littoral Zone	80	pct
Water-Surface Zone	40	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	235
Trophic State Index (Carlson, 1977)	
TSI_{SD}	57
TSI_{TP}	63
TSI_{Chl}	53



Beecher Lake, Snohomish County. Photo taken July 6, 1981, view southwesterly. Bathymetric map from U.S. Geological Survey, June 11, 1981.

BLACKMANS LAKE | SNOHOMISH COUNTY | WRIA 07

T28N-R06E-07 | LATITUDE 47° 55' 47" | LONGITUDE 122° 05' 32"

PHYSICAL DATA

Drainage area	0.81	mi^2
Altitude	140	ft
Lake Area	57	acres
Lake Volume	800	acre-ft
Mean Depth	14	ft
Maximum Depth	29	ft
Shoreline Length	1.5	mi
Shoreline Configuration	1.4	
Development of Volume	0.49	
Bottom Slope	1.6	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	55	pct
Number of Nearshore Homes	20	

Land Use in Drainage Basin

Residential-Urban	0	pct
Residential-Suburban	8	pct
Agricultural	69	pct
Forest or Unproductive	12	pct
Lake Surface	11	pct

Public Boat Access to Lake: Yes

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 7, 1981	
Depth (ft)	3	23
Water Temperature (°C)	19.5	12.1
Dissolved Oxygen	9.3	0.2
Specific Conductance (umho)	84	91
pH (units)	7.0	6.7
Total Nitrate, as N	0.00	.00
Total Nitrite, as N	.01	.01
Total Ammonia, as N	.06	.30
Total Organic Nitrogen, as N	.76	1.0
Total Nitrogen, as N	.83	1.3
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.00	.01
Secchi-Disc Visibility (ft)	14	
Chlorophyll *a* (ug/L)	3.82	--

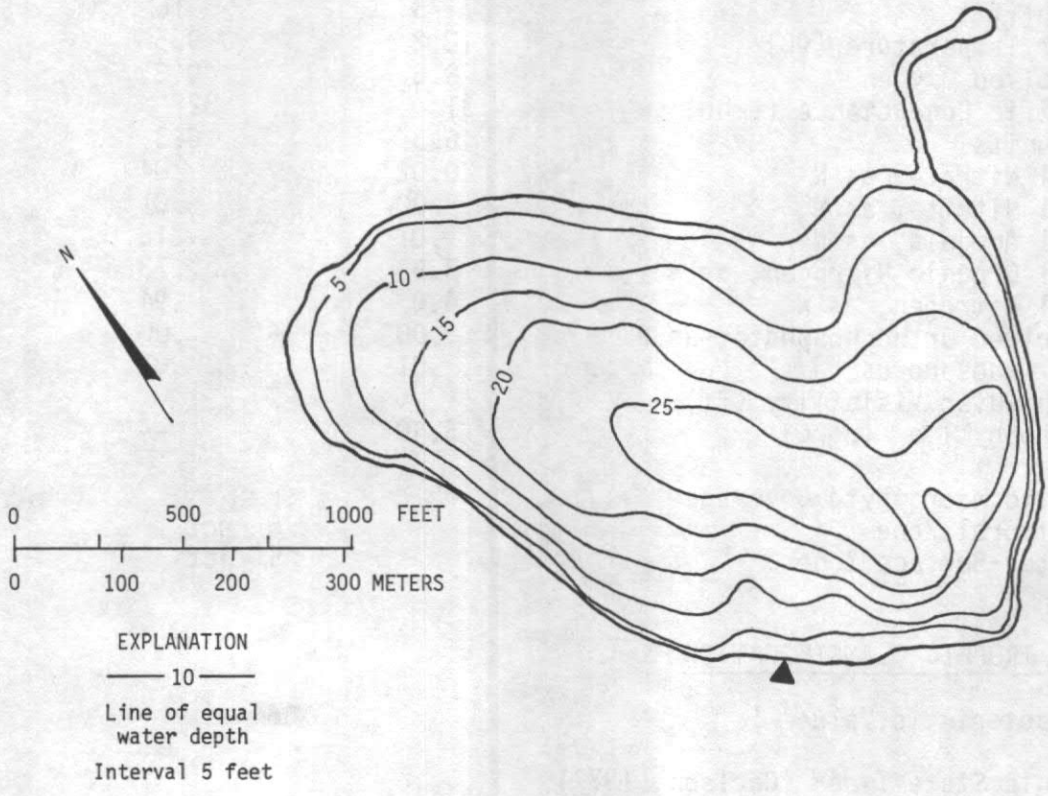
Aquatic Macrophyte Coverage		
Littoral Zone	60	pct
Water-Surface Zone	10	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value (Bortleson, 1978)	87

Trophic State Index (Carlson, 1977)

TSI_{SD}	39
TSI_{TP}	0
TSI_{Chl}	44



Blackmans Lake, Snohomish County. Photo taken May 13, 1973. Bathymetric map from U.S. Geological Survey, July 18, 1973.

BOYD LAKE SNOHOMISH COUNTY WRIA 07

T30N-R07E-28 LATITUDE 48° 03' 30" LONGITUDE 121° 55' 15"

PHYSICAL DATA

Drainage area	1.19	mi^2
Altitude	520	ft
Lake Area	11	acres
Lake Volume	123	acre-ft
Mean Depth	11	ft
Maximum Depth	17	ft
Shoreline Length	0.61	mi
Shoreline Configuration	1.3	
Development of Volume	0.63	
Bottom Slope	2.1	pct
Surface Inflow	No	
Surface Outflow	No	

CULTURAL DATA

Residential Development	10	pct
Number of Nearshore Homes	1	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	0	pct
Agricultural	0	pct
Forest or Unproductive	97	pct
Lake Surface	3	pct
Public Boat Access to Lake	No	

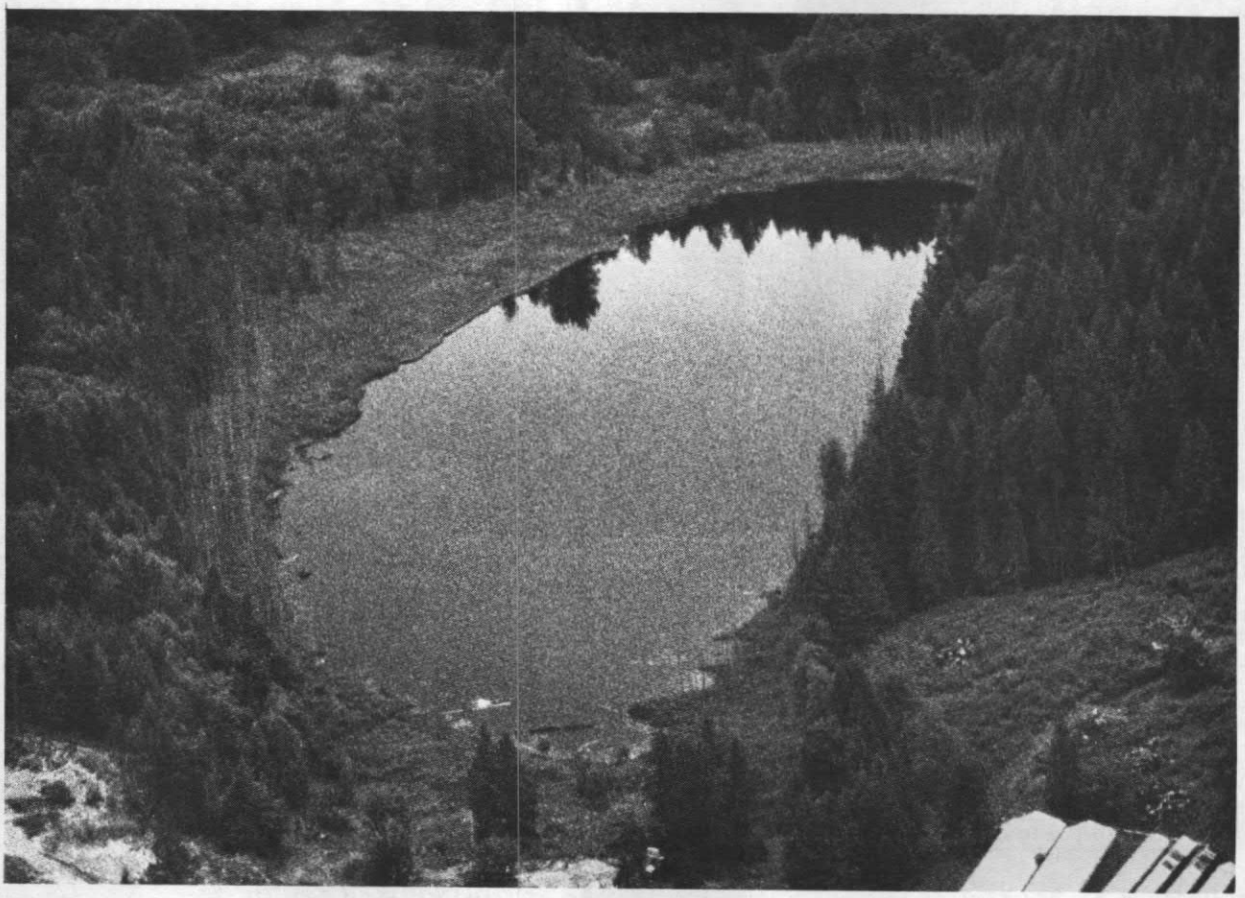
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

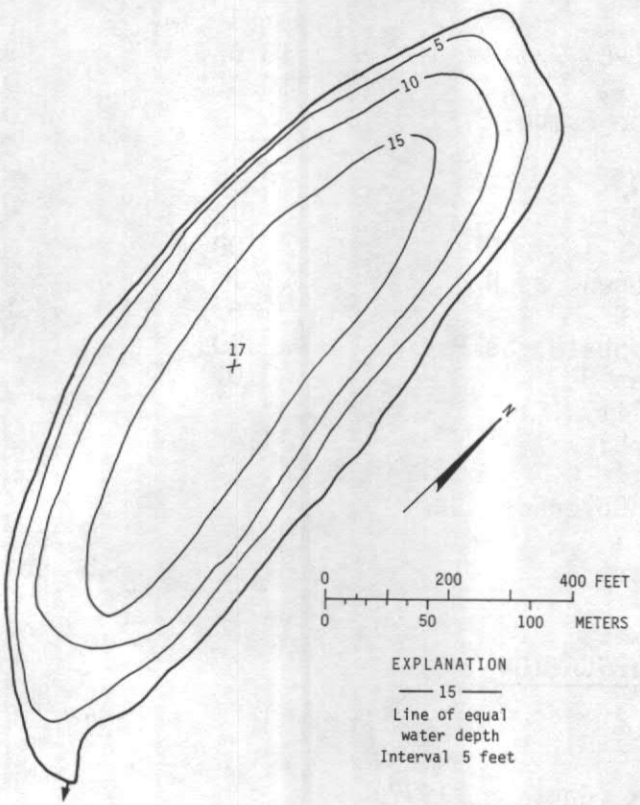
Date	July 7, 1981	
Depth (ft)	3	16
Water Temperature (°C)	18.2	9.5
Dissolved Oxygen	8.6	0.3
Specific Conductance (umho)	31	32
pH (units)	6.3	6.3
Total Nitrate, as N	0.02	.04
Total Nitrite, as N	.00	.01
Total Ammonia, as N	.07	.16
Total Organic Nitrogen, as N	3.9	.73
Total Nitrogen, as N	4.0	.94
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.01	.01
Secchi-Disc Visibility (ft)	7	
Chlorophyll a (ug/L)	5.49	--

Aquatic Macrophyte Coverage		
Littoral Zone	75	pct
Water-Surface Zone	<5	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	364
Trophic State Index (Carlson, 1977)	
TSI_{SD}	49
TSI_{TP}	37
TSI_{Chl}	47





Boyd Lake, Snohomish County. Photo taken July 7, 1981, view northwesterly. Bathymetric map from Washington Department of Game, January 27, 1949.

BRYANT LAKE SNOHOMISH COUNTY WRIA 05

T32N-R05E-27 LATITUDE 48° 13' 57" LONGITUDE 122° 08' 53"

PHYSICAL DATA

Drainage area	0.92 mi^2
Altitude	146 ft
Lake Area	37 acres
Lake Volume	520 acre-ft
Mean Depth	14 ft
Maximum Depth	23 ft
Shoreline Length	0.89 mi
Shoreline Configuration	1.0
Development of Volume	0.61
Bottom Slope	1.6 pct
Surface Inflow	No
Surface Outflow	Yes

CULTURAL DATA

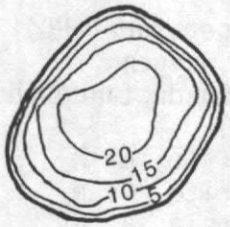
Residential Development	0	pct
Number of Nearshore Homes	0	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	4	pct
Agricultural	40	pct
Forest or Unproductive	50	pct
Lake Surface	6	pct
Public Boat Access to Lake	No	

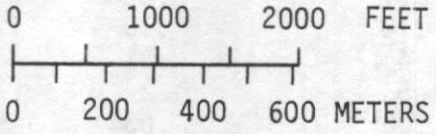
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 7, 1981	
Depth (ft)	3	18
Water Temperature (°C)	18.6	9.1
Dissolved Oxygen	10.4	0.3
Specific Conductance (umho)	95	110
pH (units)	7.0	6.5
Total Nitrate, as N	0.36	.81
Total Nitrite, as N	.02	.01
Total Ammonia, as N	.09	.08
Total Organic Nitrogen, as N	1.1	.75
Total Nitrogen, as N	1.6	1.7
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.01	.01
Secchi-Disc Visibility (ft)	3	
Chlorophyll a (ug/L)	11.4	--
Aquatic Macrophyte Coverage		
Littoral Zone	75 pct	
Water-Surface Zone	<5 pct	

LAKE TROPHIC CLASSIFICATION

Characteristic Value	278
Trophic State Index (Carlson, 1977)	
TSI_{SD}	61
TSI_{TP}	37
TSI_{Chl}	54





EXPLANATION

10

Line of equal water depth

Interval 5 feet

Bryant Lake, Snohomish County. Photo taken July 7, 1981, view southwesterly. Bathymetric map from U.S. Geological Survey, May 21, 1971.

CASSIDY LAKE | SNOHOMISH COUNTY | WRIA 07

T30N-R06E-31 | LATITUDE 48° 02' 51" | LONGITUDE 122° 05' 28"

PHYSICAL DATA

Drainage area	4.56 mi^2
Altitude	319 ft
Lake Area	120 acres
Lake Volume	1,300 acre-ft
Mean Depth	11 ft
Maximum Depth	20 ft
Shoreline Length	1.8 mi
Shoreline Configuration	1.2
Development of Volume	0.55
Bottom Slope	0.77 pct
Surface Inflow	No
Surface Outflow	Yes

CULTURAL DATA

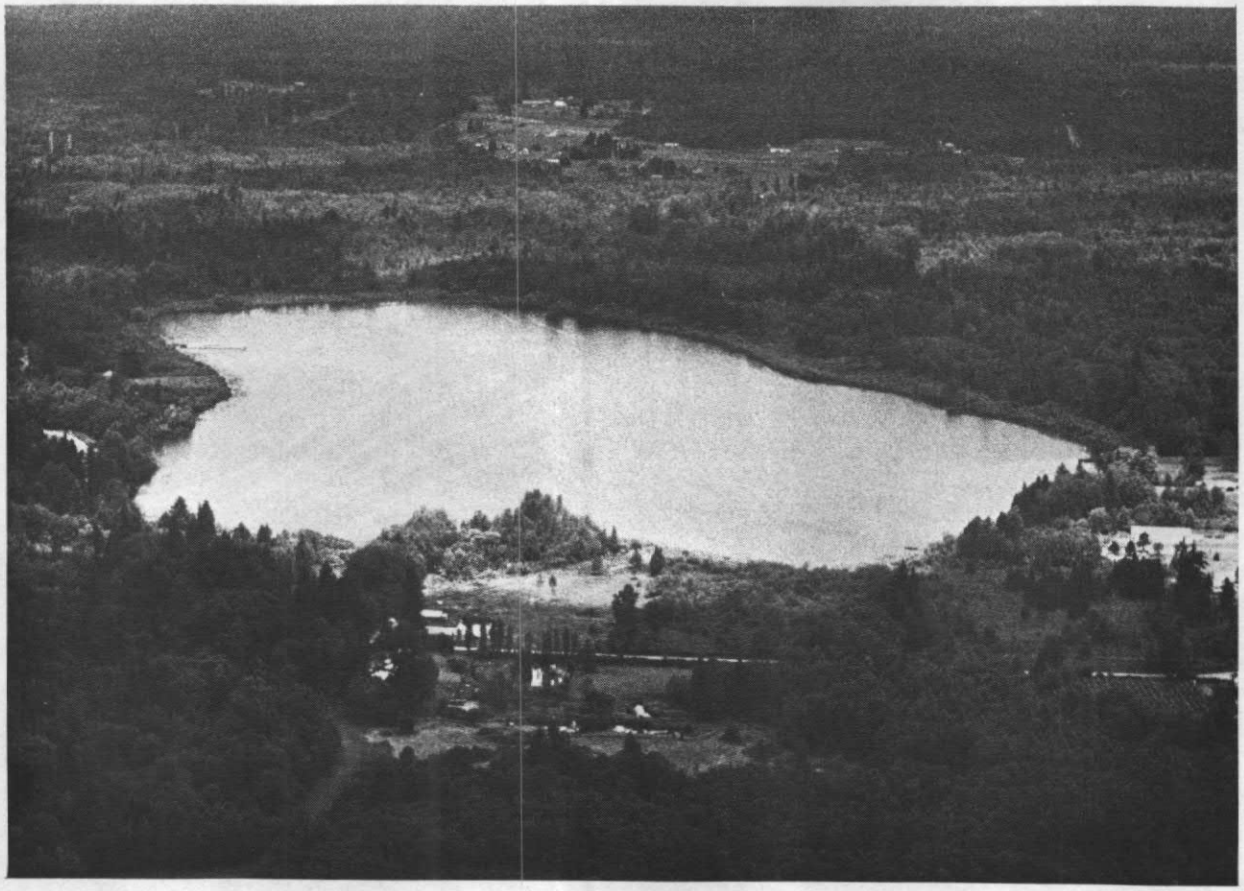
Residential Development	25	pct
Number of Nearshore Homes	19	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	< 1	pct
Agricultural	14	pct
Forest or Unproductive	82	pct
Lake Surface	4	pct
Public Boat Access to Lake	Yes	

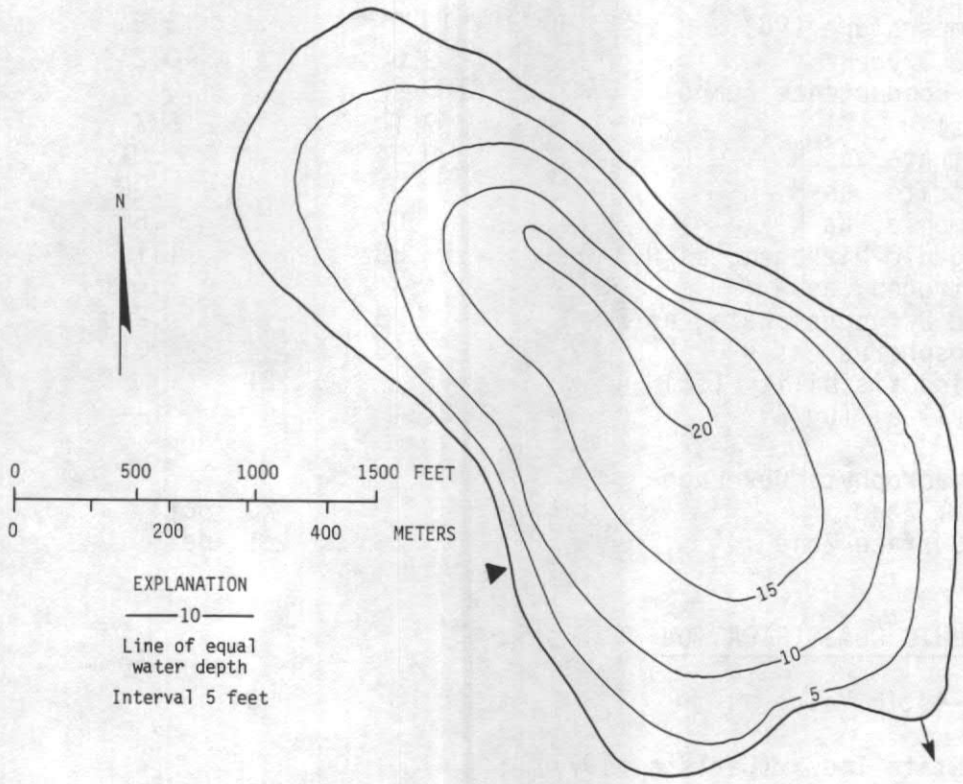
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 7, 1981	
Depth (ft)	3	18
Water Temperature (°C)	18.5	11.9
Dissolved Oxygen	8.8	0.2
Specific Conductance (umho)	38	43
pH (units)	6.9	6.3
Total Nitrate, as N	0.00	.06
Total Nitrite, as N	.01	.02
Total Ammonia, as N	.10	.19
Total Organic Nitrogen, as N	1.4	.91
Total Nitrogen, as N	1.5	1.2
Dissolved Orthophosphate, as P	.00	.03
Total Phosphorus, as P	.02	.06
Secchi-Disc Visibility (ft)	2	
Chlorophyll a (ug/L)	21.1	--
Aquatic Macrophyte Coverage		
Littoral Zone	90 pct	
Water-Surface Zone	5 pct	

LAKE TROPHIC CLASSIFICATION

Characteristic Value	422
Trophic State Index (Carlson, 1977)	
TSI_{SD}	67
TSI_{TP}	47
TSI_{Chl}	60





Cassidy Lake, Snohomish County. Photo taken July 7, 1981, view northerly. Bathymetric map from Washington Department of Game, July 23, 1956.

HOWARD LAKE | SNOHOMISH COUNTY | WRIA 05

T31N-R04E-20 | LATITUDE 48° 09' 30" | LONGITUDE 122° 19' 42"

PHYSICAL DATA

Drainage area	0.46	mi^2
Altitude	238	ft
Lake Area	28	acres
Lake Volume	790	acre-ft
Mean Depth	29	ft
Maximum Depth	50	ft
Shoreline Length	0.87	mi
Shoreline Configuration	1.2	
Development of Volume	0.56	
Bottom Slope	4.0	pct
Surface Inflow	No	
Surface Outflow	No	

CULTURAL DATA

Residential Development	65	pct
Number of Nearshore Homes	29	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	4	pct
Agricultural	4	pct
Forest or Unproductive	83	pct
Lake Surface	9	pct
Public Boat Access to Lake	Yes	

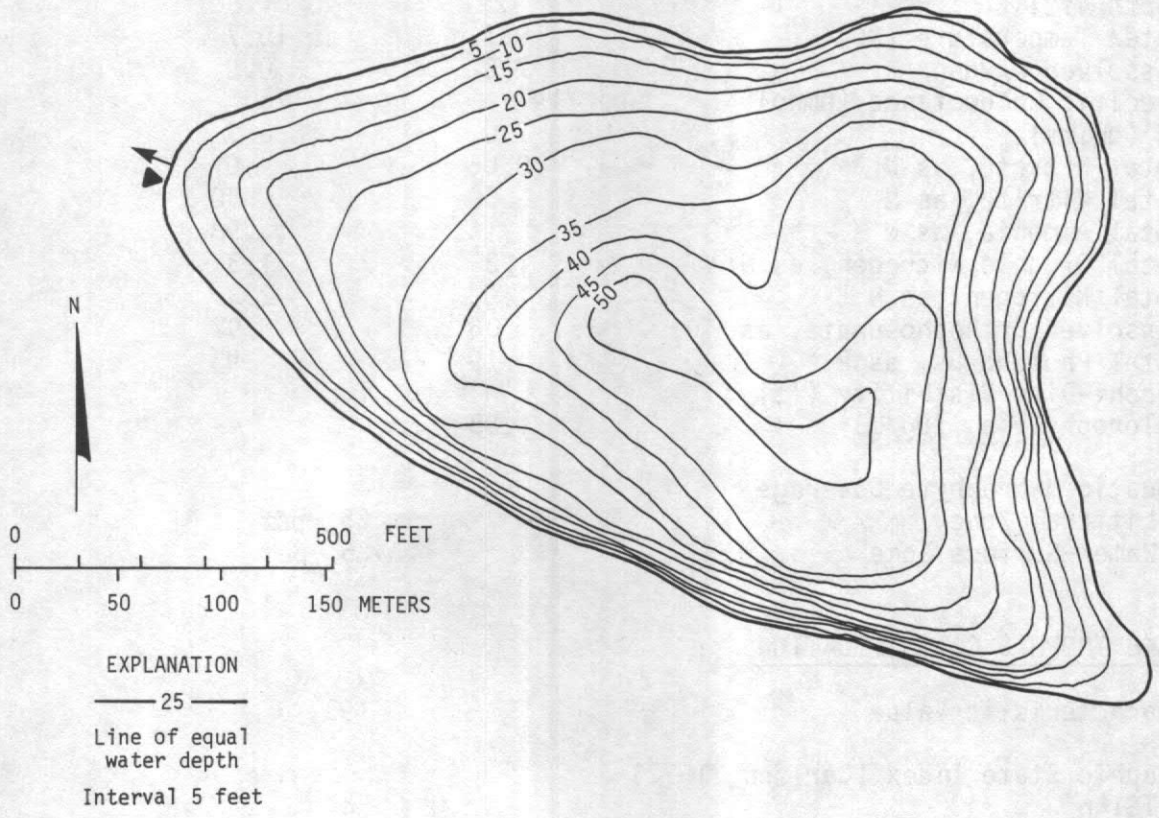
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	June 30, 1981	
Depth (ft)	3	52
Water Temperature (°C)	19.0	5.8
Dissolved Oxygen	9.6	0.2
Specific Conductance (umho)	100	110
pH (units)	7.1	6.7
Total Nitrate, as N	0.34	.01
Total Nitrite, as N	.01	.00
Total Ammonia, as N	.07	.86
Total Organic Nitrogen, as N	.88	1.1
Total Nitrogen, as N	1.3	2.0
Dissolved Orthophosphate, as P	.03	.26
Total Phosphorus, as P	.02	.31
Secchi-Disc Visibility (ft)	21	
Chlorophyll a (ug/L)	2.34	--

Aquatic Macrophyte Coverage		
Littoral Zone	20	pct
Water-Surface Zone	<1	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	84
Trophic State Index (Carlson, 1977)	
TSI_{SD}	33
TSI_{TP}	47
TSI_{Chl}	39



Howard (31N-4E-20) Lake, Snohomish County. Photo taken July 14, 1973. Bathymetric map from Washington Department of Game, July 30, 1947.

KETCHUM LAKE | SNOHOMISH COUNTY | WRIA 03

T32N-R04E-07 | LATITUDE 48° 16' 48" | LONGITUDE 122° 20' 27"

PHYSICAL DATA

Drainage area	0.52	mi^2
Altitude	190	ft
Lake Area	24	acres
Lake Volume	296	acre-ft
Mean Depth	12	ft
Maximum Depth	21	ft
Shoreline Length	1.3	mi
Shoreline Configuration	1.9	
Development of Volume	0.58	
Bottom Slope	1.82	pct
Surface Inflow	Yes	
Surface Outflow	No	

CULTURAL DATA

Residential Development	60	pct
Number of Nearshore Homes	59	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	23	pct
Agricultural	17	pct
Forest or Unproductive	54	pct
Lake Surface	6	pct
Public Boat Access to Lake	Yes	

WATER-QUALITY DATA (in mg/L unless otherwise indicated)

Date	July 9, 1981	
Depth (ft)	3	18
Water Temperature (°C)	19.1	10.7
Dissolved Oxygen	7.2	0.0
Specific Conductance (umho)	147	175
pH (units)	7.0	6.9
Total Nitrate, as N	0.05	.01
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.16	.98
Total Organic Nitrogen, as N	1.3	1.3
Total Nitrogen, as N	1.6	2.3
Dissolved Orthophosphate, as P	.06	.92
Total Phosphorus, as P	.19	.95
Secchi-Disc Visibility (ft)	10	
Chlorophyll *a* (ug/L)	1.98	--

Aquatic Macrophyte Coverage

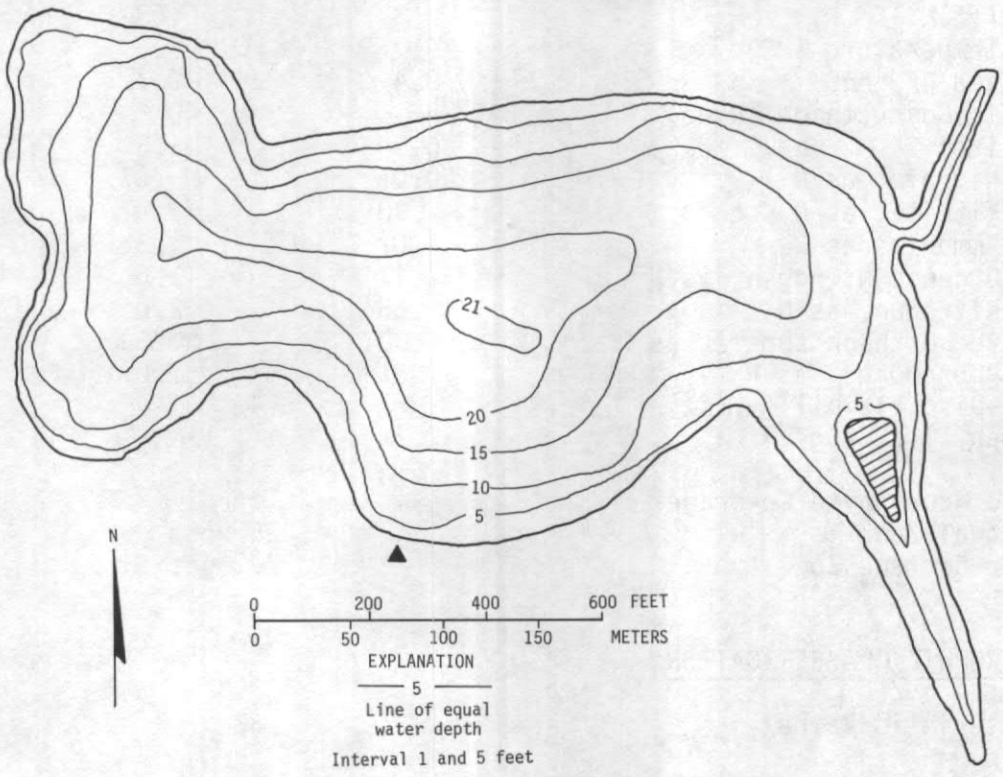
Littoral Zone	25	pct
Water-Surface Zone	<5	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value: 193

Trophic State Index (Carlson, 1977)

TSI_{SD}	44
TSI_{TP}	80
TSI_{Chl}	37



Ketchum Lake, Snohomish County. Photo taken July 9, 1981, view southwesterly. Bathymetric map from U.S. Geological Survey, June 15, 1981.

KI LAKE SNOHOMISH COUNTY WRIA 05

T31N-R04E-23 LATITUDE 48° 09' 25" LONGITUDE 122° 15' 45"

PHYSICAL DATA

Drainage area	0.72	mi^2
Altitude	414	ft
Lake Area	98	acres
Lake Volume	3,300	acre-ft
Mean Depth	33	ft
Maximum Depth	70	ft
Shoreline Length	1.9	mi
Shoreline Configuration	1.3	
Development of Volume	0.47	
Bottom Slope	3.0	pct
Surface Inflow	No	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	85	pct
Number of Nearshore Homes	87	

Land Use in Drainage Basin

Residential-Urban	0	pct
Residential-Suburban	11	pct
Agricultural	6	pct
Forest or Unproductive	62	pct
Lake Surface	21	pct

Public Boat Access to Lake: No

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 6, 1981	
Depth (ft)	3	63
Water Temperature (°C)	19.7	7.6
Dissolved Oxygen	9.4	0.7
Specific Conductance (umho)	38	40
pH (units)	6.3	5.8
Total Nitrate, as N	0.01	.07
Total Nitrite, as N	.00	.01
Total Ammonia, as N	.07	.31
Total Organic Nitrogen, as N	.47	1.6
Total Nitrogen, as N	.55	2.0
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.01	.09
Secchi-Disc Visibility (ft)	14	
Chlorophyll *a* (ug/L)	2.22	--

Aquatic Macrophyte Coverage

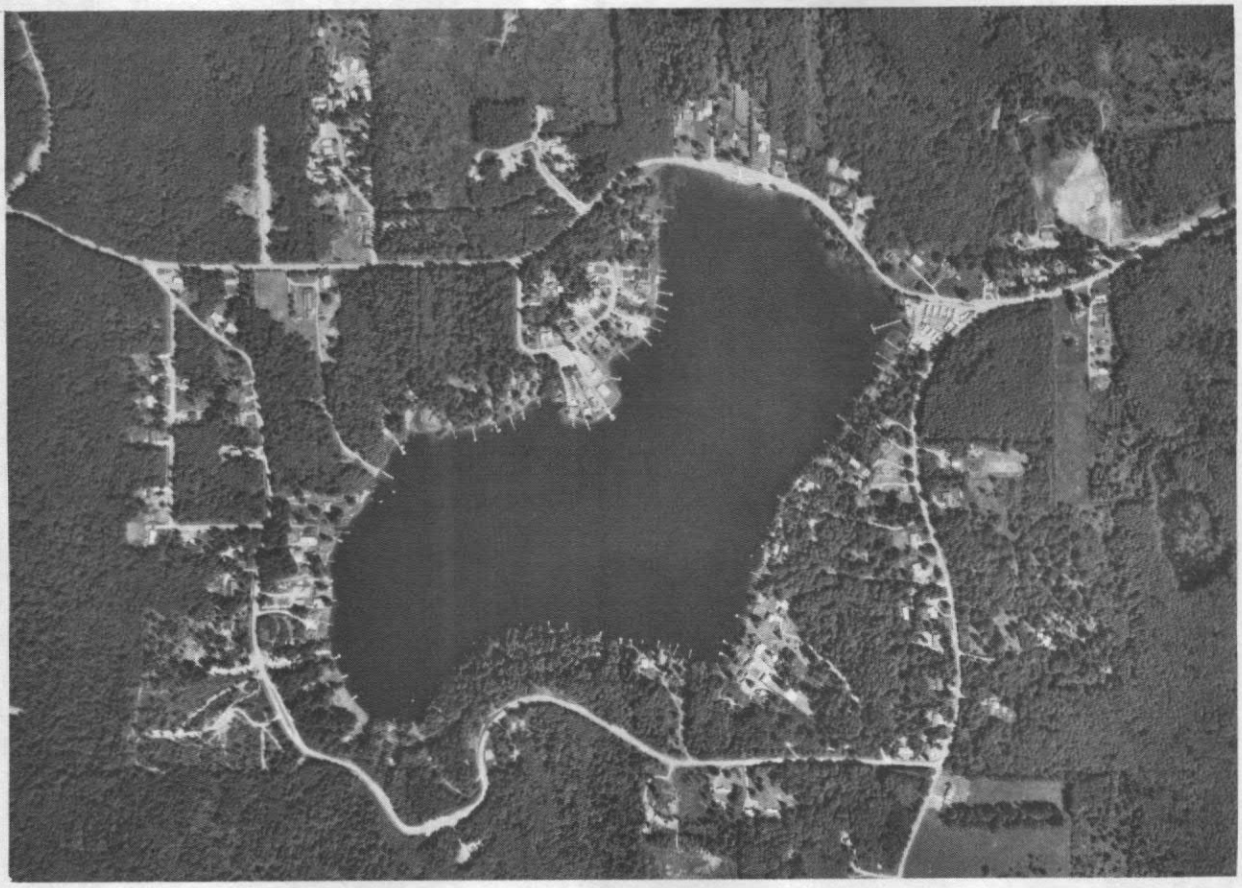
Littoral Zone	25	pct
Water-Surface Zone	20	pct

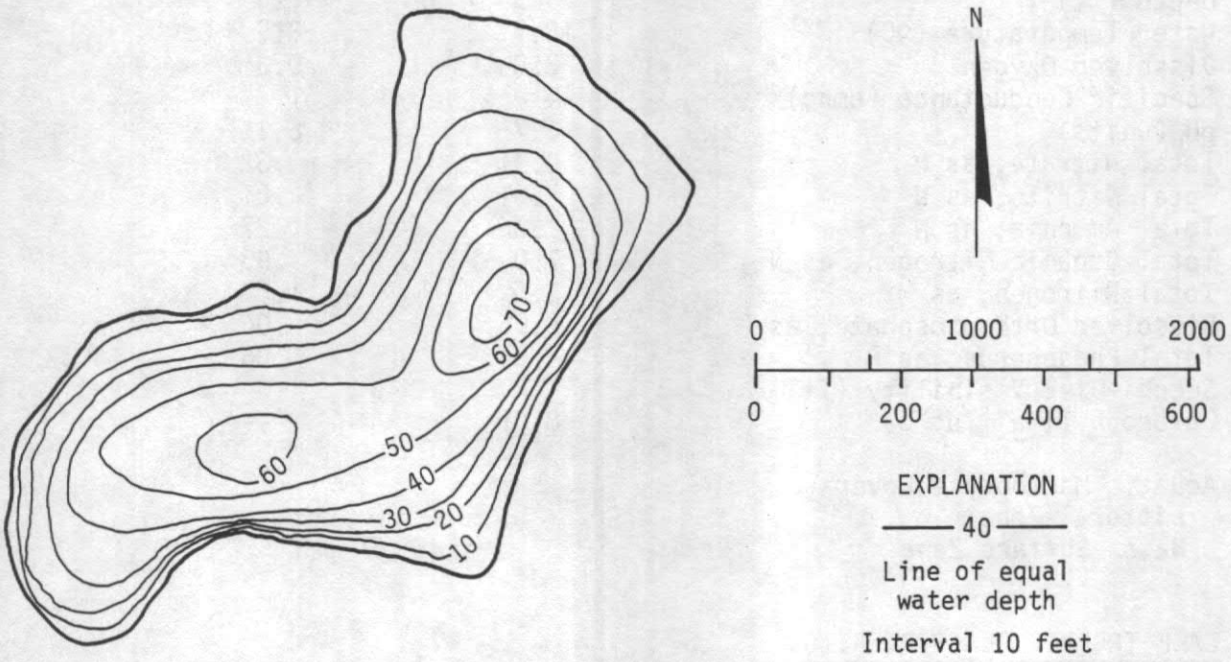
LAKE TROPHIC CLASSIFICATION

Characteristic Value: 63

Trophic State Index (Carlson, 1977)

TSI_{SD}	39
TSI_{TP}	37
TSI_{Chl}	38





Ki Lake, Snohomish County. Photo taken June 3, 1978.
Bathymetric map from Washington Department of Game, June 13, 1950.

LOMA LAKE SNOHOMISH COUNTY WRIA 07

T31N-R04E-35 LATITUDE 48° 08' 03" LONGITUDE 122° 15' 15"

PHYSICAL DATA

Drainage area	0.15	mi^2
Altitude	565	ft
Lake Area	21	acres
Lake Volume	230	acre-ft
Mean Depth	11	ft
Maximum Depth	28	ft
Shoreline Length	0.93	mi
Shoreline Configuration	1.4	
Development of Volume	0.39	
Bottom Slope	2.3	pct
Surface Inflow	No	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	95	pct
Number of Nearshore Homes	53	

Land Use in Drainage Basin

Residential-Urban	0	pct
Residential-Suburban	17	pct
Agricultural	0	pct
Forest or Unproductive	61	pct
Lake Surface	22	pct

Public Boat Access to Lake Yes

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	June 30, 1981	
Depth (ft)	3	24
Water Temperature (°C)	18.7	8.7
Dissolved Oxygen	8.8	0.3
Specific Conductance (umho)	44	51
pH (units)	6.7	6.1
Total Nitrate, as N	0.41	.32
Total Nitrite, as N	.01	.01
Total Ammonia, as N	.06	.27
Total Organic Nitrogen, as N	1.0	.93
Total Nitrogen, as N	1.5	1.5
Dissolved Orthophosphate, as P	.05	.06
Total Phosphorus, as P	.04	.06
Secchi-Disc Visibility (ft)	5	
Chlorophyll *a* (ug/L)	8.01	--

Aquatic Macrophyte Coverage

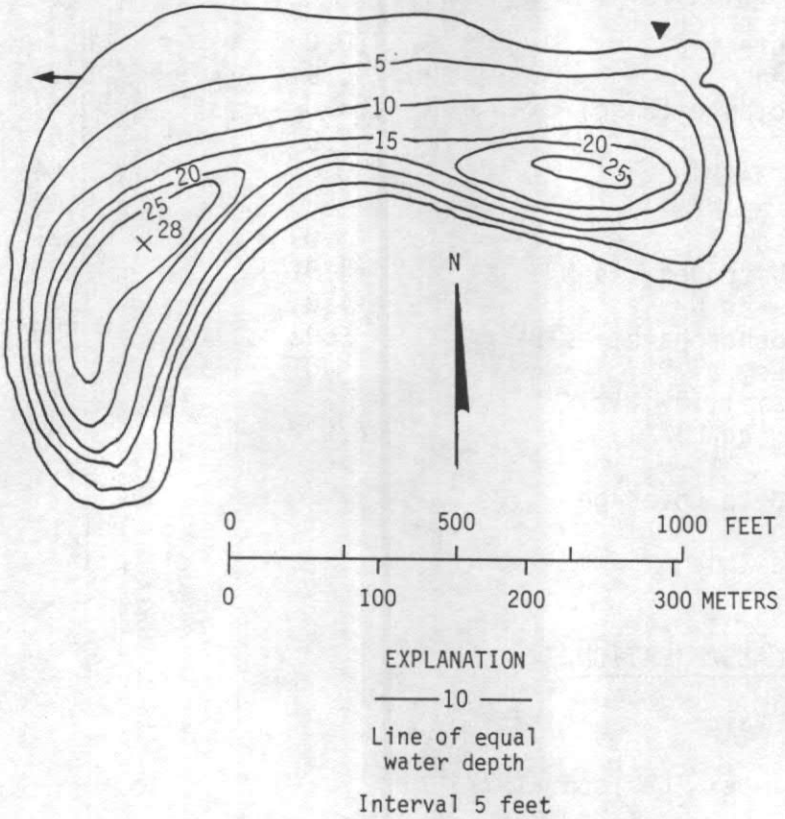
Littoral Zone	80	pct
Water-Surface Zone	5	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value 198

Trophic State Index (Carlson, 1977)

TSI_{SD}	54
TSI_{TP}	57
TSI_{Chl}	51



Loma Lake, Snohomish County. Photo taken July 30, 1973.
Bathymetric map from Washington Department of Game, July 10, 1952.

MARTHA LAKE | SNOHOMISH COUNTY | WRIA 05

T31N-R04E-18 | LATITUDE 48° 10' 03" | LONGITUDE 122° 20' 46"

PHYSICAL DATA

Drainage area	1.63 mi^2
Altitude	186 ft
Lake Area	62 acres
Lake Volume	2,000 acre-ft
Mean Depth	33 ft
Maximum Depth	70 ft
Shoreline Length	1.8 mi
Shoreline Configuration	1.6
Development of Volume	0.47
Bottom Slope	3.8 pct
Surface Inflow	Yes
Surface Outflow	No

CULTURAL DATA

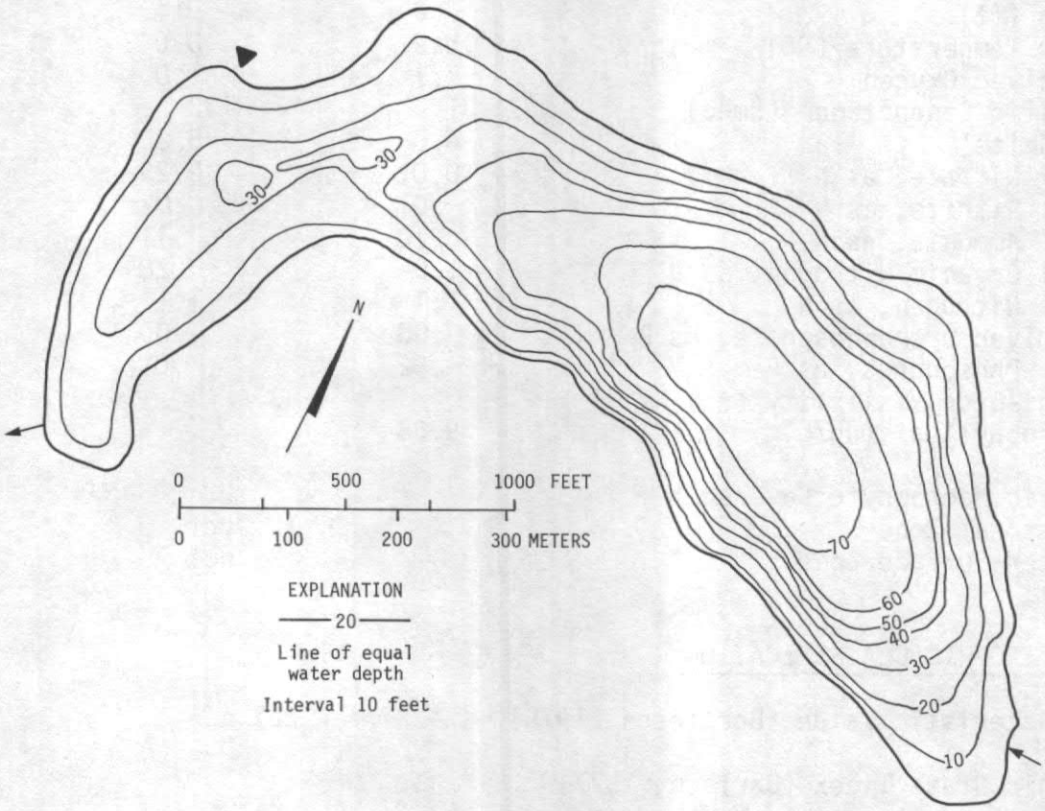
Residential Development	80 pct
Number of Nearshore Homes	71
Land Use in Drainage Basin	
Residential-Urban	0 pct
Residential-Suburban	5 pct
Agricultural	13 pct
Forest or Unproductive	73 pct
Lake Surface	9 pct
Public Boat Access to Lake	Yes

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	June 30, 1981	
Depth (ft)	3	65
Water Temperature (°C)	20.0	6.7
Dissolved Oxygen	10.5	0.3
Specific Conductance (umho)	85	89
pH (units)	7.6	6.6
Total Nitrate, as N	0.01	.04
Total Nitrite, as N	.00	.03
Total Ammonia, as N	.09	.21
Total Organic Nitrogen, as N	.91	.99
Total Nitrogen, as N	1.0	1.3
Dissolved Orthophosphate, as P	.02	.06
Total Phosphorus, as P	.01	.08
Secchi-Disc Visibility (ft)	10	
Chlorophyll *a* (ug/L)	6.02	--
Aquatic Macrophyte Coverage		
Littoral Zone	5 pct	
Water-Surface Zone	<1 pct	

LAKE TROPHIC CLASSIFICATION

Characteristic Value	123
Trophic State Index (Carlson, 1977)	
TSI_{SD}	44
TSI_{TP}	37
TSI_{Chl}	48



Martha (31N-4E-18) Lake, Snohomish County. Photo taken May 31, 1978. Bathymetric map from Washington Department of Game, January 31, 1948.

MEADOW LAKE | SNOHOMISH COUNTY | WRIA 07

T28N-R07E-18 | LATITUDE 47° 54' 50" | LONGITUDE 121° 57' 52"

PHYSICAL DATA

Drainage area	0.73	mi^2
Altitude	500	ft
Lake Area	12	acres
Lake Volume	170	acre-ft
Mean Depth	14	ft
Maximum Depth	21	ft
Shoreline Length	1.1	mi
Shoreline Configuration	2.3	
Development of Volume	0.66	
Bottom Slope	2.6	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

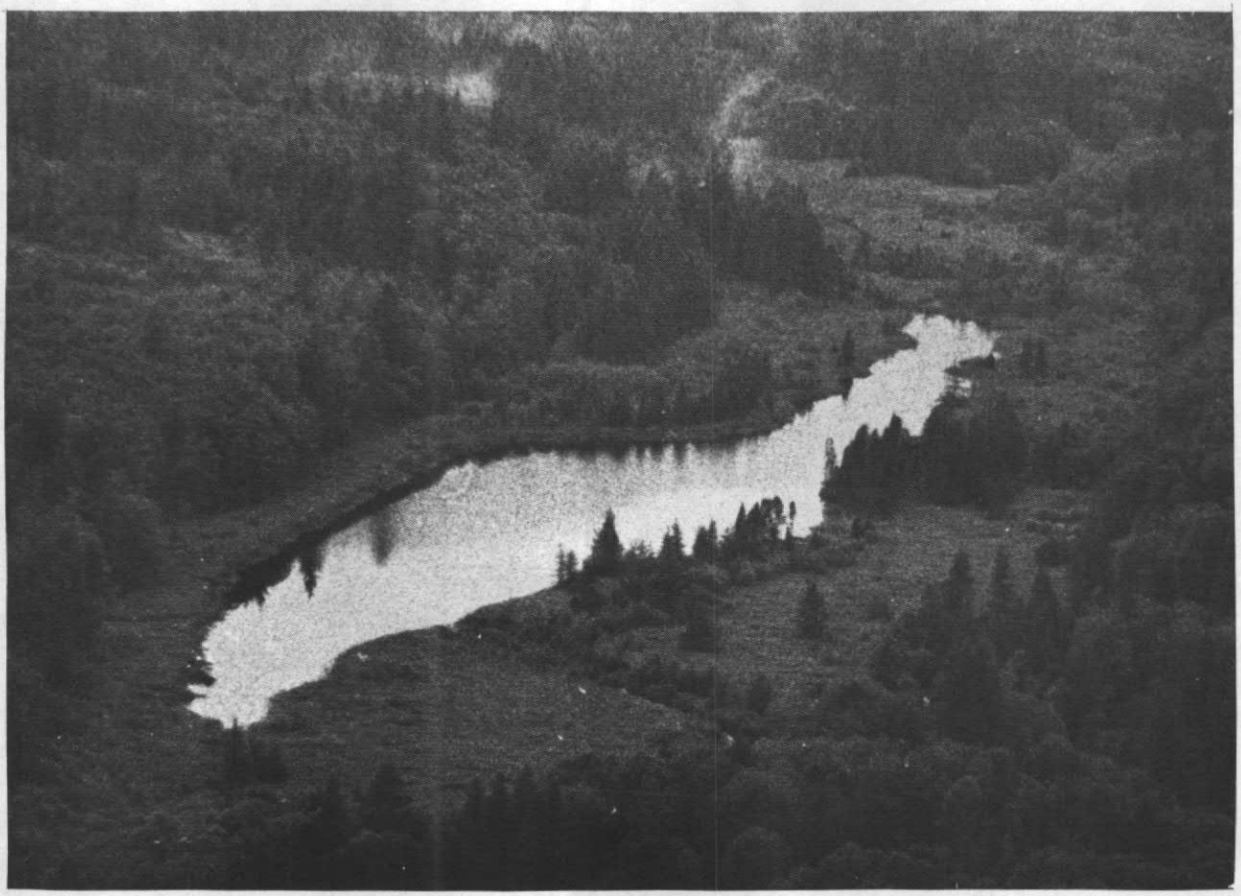
Residential Development	0	pct
Number of Nearshore Homes	0	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	8	pct
Agricultural	0	pct
Forest or Unproductive	89	pct
Lake Surface	3	pct
Public Boat Access to Lake	No	

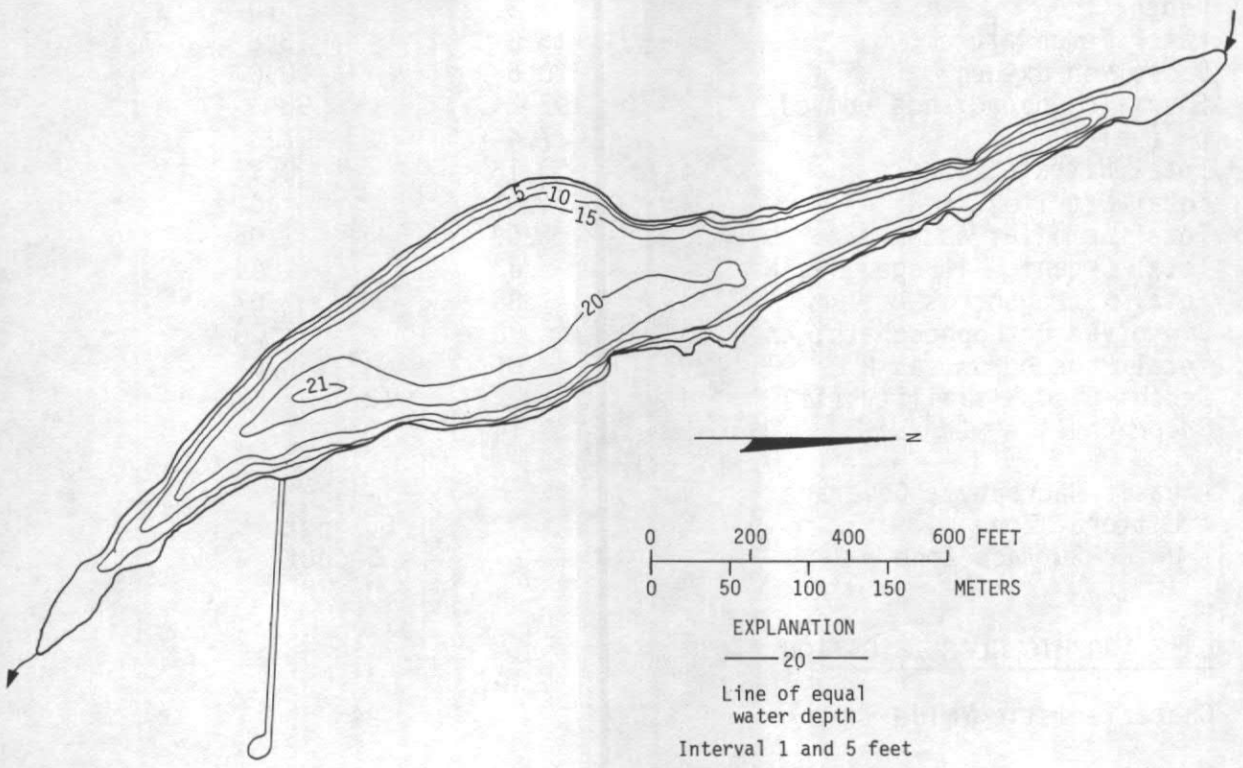
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 7, 1981	
Depth (ft)	3	14
Water Temperature (°C)	16.9	8.0
Dissolved Oxygen	7.1	1.0
Specific Conductance (umho)	31	33
pH (units)	6.0	5.8
Total Nitrate, as N	0.01	0.23
Total Nitrite, as N	.01	.02
Total Ammonia, as N	.10	.11
Total Organic Nitrogen, as N	1.0	.28
Total Nitrogen, as N	1.1	1.1
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.02	.01
Secchi-Disc Visibility (ft)	3	
Chlorophyll *a* (ug/L)	9.38	--
Aquatic Macrophyte Coverage		
Littoral Zone	10 pct	
Water-Surface Zone	<2 pct	

LAKE TROPHIC CLASSIFICATION

Characteristic Value (Bortleson, 1978)	267
Trophic State Index (Carlson, 1977)	
TSI_{SD}	61
TSI_{TP}	47
TSI_{Chl}	53





Meadow Lake, Snohomish County. Photo taken July 7, 1981, view northwesterly. Bathymetric map from U.S. Geological Survey, June 11, 1981.

MUD (TROUT) LAKE | SNOHOMISH COUNTY | WRIA 05

T31N-R07E-29 | LATITUDE 48° 08' 43" | LONGITUDE 121° 55' 42"

PHYSICAL DATA

Drainage area	1.29	mi^2
Altitude	665	ft
Lake Area	29	acres
Lake Volume	166	acre-ft
Mean Depth	6	ft
Maximum Depth	12	ft
Shoreline Length	1.4	mi
Shoreline Configuration	1.8	
Development of Volume	0.48	
Bottom Slope	0.95	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	0	pct
Number of Nearshore Homes	0	

Land Use in Drainage Basin

Residential-Urban	0	pct
Residential-Suburban	0	pct
Agricultural	0	pct
Forest or Unproductive	95	pct
Lake Surface	5	pct

Public Boat Access to Lake: No

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 7, 1981	
Depth (ft)	3	10
Water Temperature (°C)	15.2	13.8
Dissolved Oxygen	10.6	10.0
Specific Conductance (umho)	92	96
pH (units)	7.4	7.3
Total Nitrate, as N	0.16	0.17
Total Nitrite, as N	.01	.01
Total Ammonia, as N	.08	.05
Total Organic Nitrogen, as N	.63	.44
Total Nitrogen, as N	.88	.67
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.01	.01
Secchi-Disc Visibility (ft)	>12	
Chlorophyll a (ug/L)	3.14	--

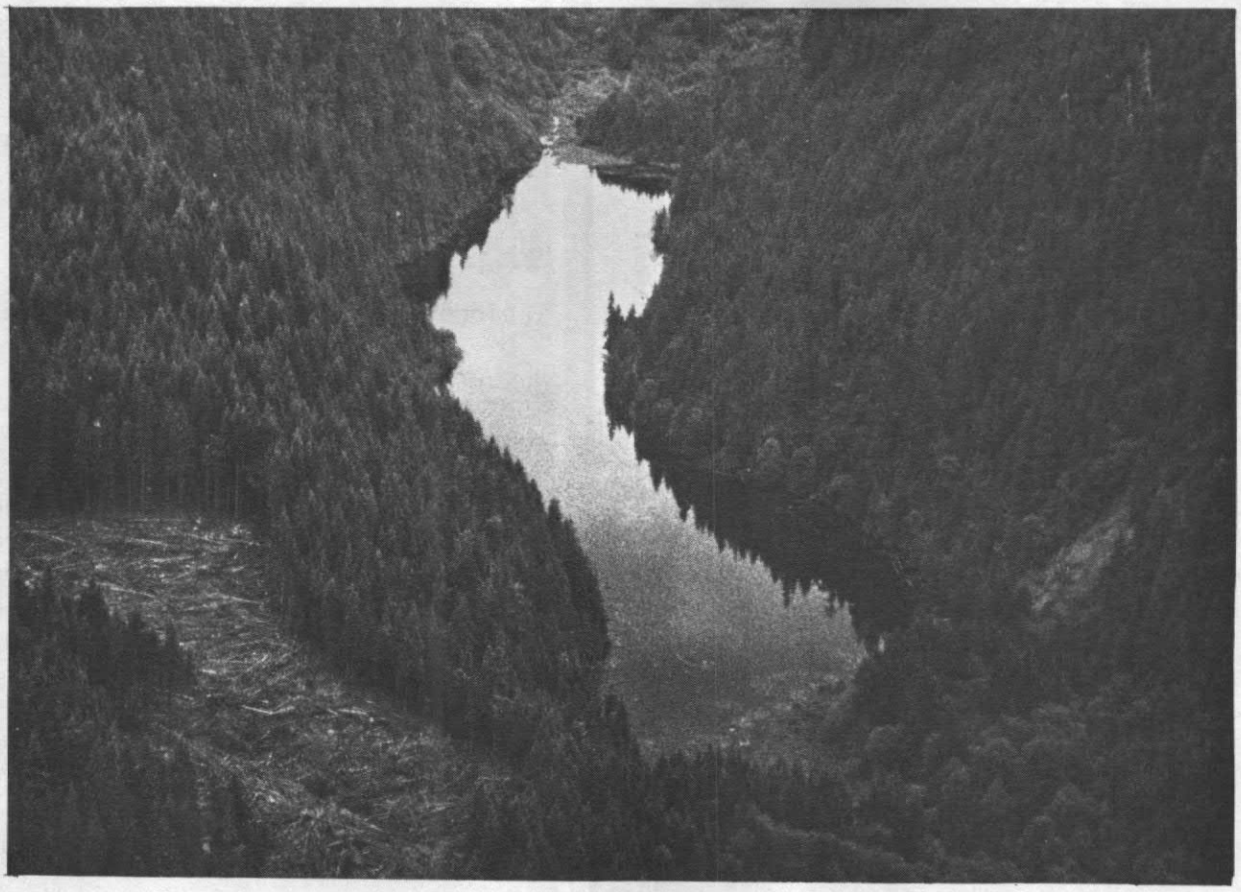
Aquatic Macrophyte Coverage		
Littoral Zone	85	pct
Water-Surface Zone	5	pct

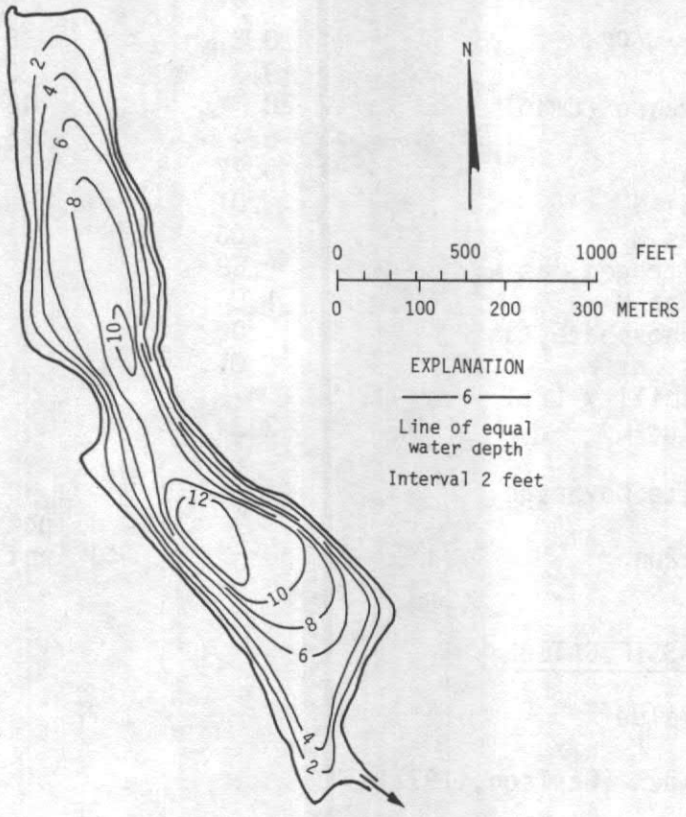
LAKE TROPHIC CLASSIFICATION

Characteristic Value	84

Trophic State Index (Carlson, 1977)

TSI_{SD}	41
TSI_{TP}	37
TSI_{Chl}	42





Mud (Trout)(31N-7E-29) Lake, Snohomish County. Photo taken July 7, 1981, view northerly. Bathymetric map from Washington Department of Game, April 20, 1956.

ROESIGER LAKE (NORTH ARM) SNOHOMISH COUNTY WRIA 07

T29N-R07E-28 LATITUDE 47° 59' 17" LONGITUDE 121° 55' 04"

PHYSICAL DATA

Drainage area	1.95	mi^2
Altitude	570	ft
Lake Area	200	acres
Lake Volume	9,600	acre-ft
Mean Depth	48	ft
Maximum Depth	110	ft
Shoreline Length	2.9	mi
Shoreline Configuration	1.5	
Development of Volume	0.43	
Bottom Slope	3.3	pct
Surface Inflow	Yes	
Surface Outflow	No	

CULTURAL DATA

Residential Development	100	pct
Number of Nearshore Homes	200	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	9	pct
Agricultural	0	pct
Forest or Unproductive	75	pct
Lake Surface	16	pct
Public Boat Access to Lake	Yes	

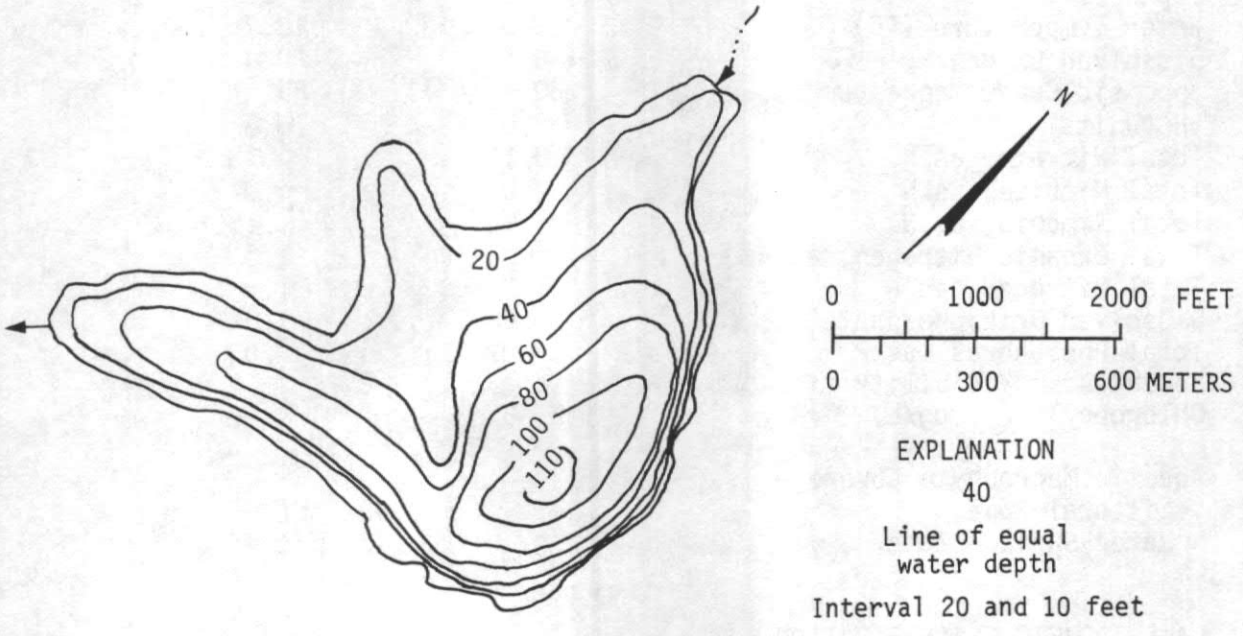
WATER-QUALITY DATA (in mg/L unless otherwise indicated)

Date	July 6, 1981	
Depth (ft)	3	88
Water Temperature (°C)	20.3	5.1
Dissolved Oxygen	9.3	0.2
Specific Conductance (umho)	28	48
pH (units)	6.4	6.0
Total Nitrate, as N	0.27	.01
Total Nitrite, as N	.01	.01
Total Ammonia, as N	.06	.38
Total Organic Nitrogen, as N	.68	.43
Total Nitrogen, as N	1.0	.83
Dissolved Orthophosphate, as P	.00	.00
Total Phosphorus, as P	.01	.01
Secchi-Disc Visibility (ft)	17	
Chlorophyll *a* (ug/L)	2.34	--

Aquatic Macrophyte Coverage	
Littoral Zone	1 pct
Water-Surface Zone	<1 pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	72
Trophic State Index (Carlson, 1977)	
TSI_{SD}	36
TSI_{TP}	37
TSI_{Chl}	39



Roesiger (north arm)(29N-7E-28) Lake, Snohomish County. Photo taken July 6, 1981, view northwesterly. Bathymetric map from Washington Department of Game, February 5, 1952.

RUGGS LAKE | SNOHOMISH COUNTY | WRIA 07

T28N-R05E-29 | LATITUDE 47° 52' 58" | LONGITUDE 122° 11' 25"

PHYSICAL DATA

Drainage area	0.90	mi^2
Altitude	390	ft
Lake Area	11	acres
Lake Volume	77	acre-ft
Mean Depth	7	ft
Maximum Depth	16	ft
Shoreline Length	0.59	mi
Shoreline Configuration	1.3	
Development of Volume	0.45	
Bottom Slope	2.1	pct
Surface Inflow	Yes	
Surface Outflow	Yes	

CULTURAL DATA

Residential Development	70	pct
Number of Nearshore Homes	20	
Land Use in Drainage Basin		
Residential-Urban	0	pct
Residential-Suburban	67	pct
Agricultural	7	pct
Forest or Unproductive	24	pct
Lake Surface	2	pct
Public Boat Access to Lake	No	

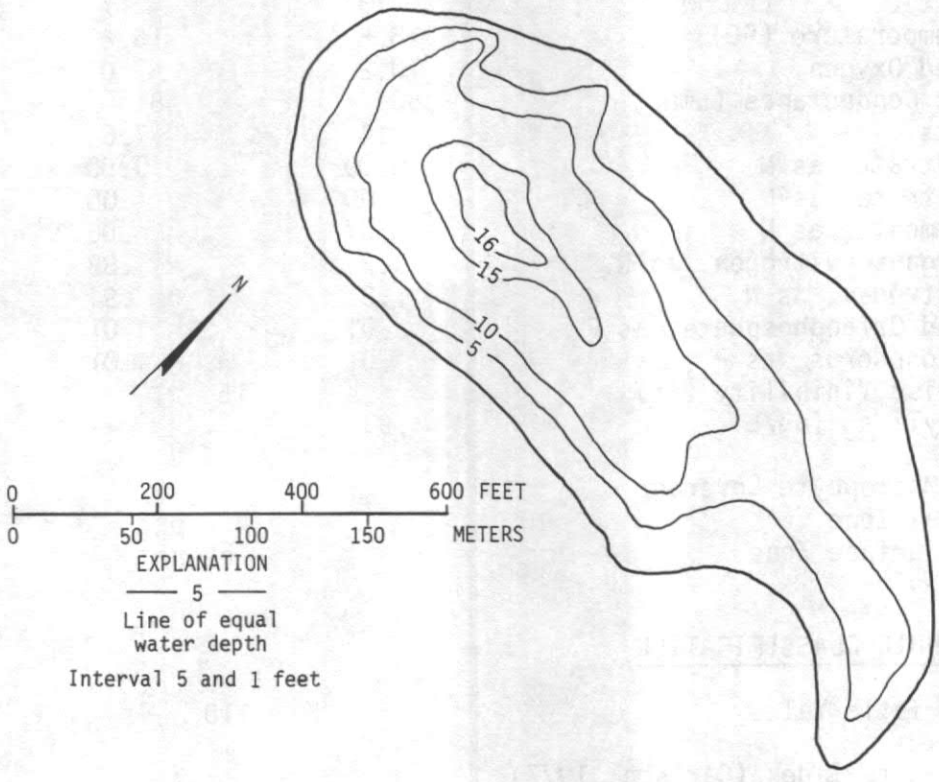
WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 1, 1981	
Depth (ft)	3	13
Water Temperature (°C)	18.5	13.7
Dissolved Oxygen	6.6	0.4
Specific Conductance (umho)	80	85
pH (units)	7.0	6.8
Total Nitrate, as N	0.19	.18
Total Nitrite, as N	.01	.01
Total Ammonia, as N	.12	.15
Total Organic Nitrogen, as N	.73	1.2
Total Nitrogen, as N	1.1	1.5
Dissolved Orthophosphate, as P	.02	.02
Total Phosphorus, as P	.01	.03
Secchi-Disc Visibility (ft)	8	
Chlorophyll *a* (ug/L)	2.48	--

Aquatic Macrophyte Coverage		
Littoral Zone	98	pct
Water-Surface Zone	40	pct

LAKE TROPHIC CLASSIFICATION

Characteristic Value	111
Trophic State Index (Carlson, 1977)	
TSI_{SD}	47
TSI_{TP}	37
TSI_{Chl}	39



Ruggs Lake, Snohomish County. Photo taken July 1, 1981, view northwesterly. Bathymetric map from U.S. Geological Survey, June 21, 1981.

SERENE LAKE | SNOHOMISH COUNTY | WRIA 08

T28N-R04E-34 | LATITUDE 47° 52' 18" | LONGITUDE 122° 17' 20"

PHYSICAL DATA

Drainage area	0.46	mi^2
Altitude	535	ft
Lake Area	42	acres
Lake Volume	580	acre-ft
Mean Depth	14	ft
Maximum Depth	23	ft
Shoreline Length	1.3	mi
Shoreline Configuration	1.4	
Development of Volume	0.60	
Bottom Slope	1.5	pct
Surface Inflow	No	
Surface Outflow	Yes	

CULTURAL DATA

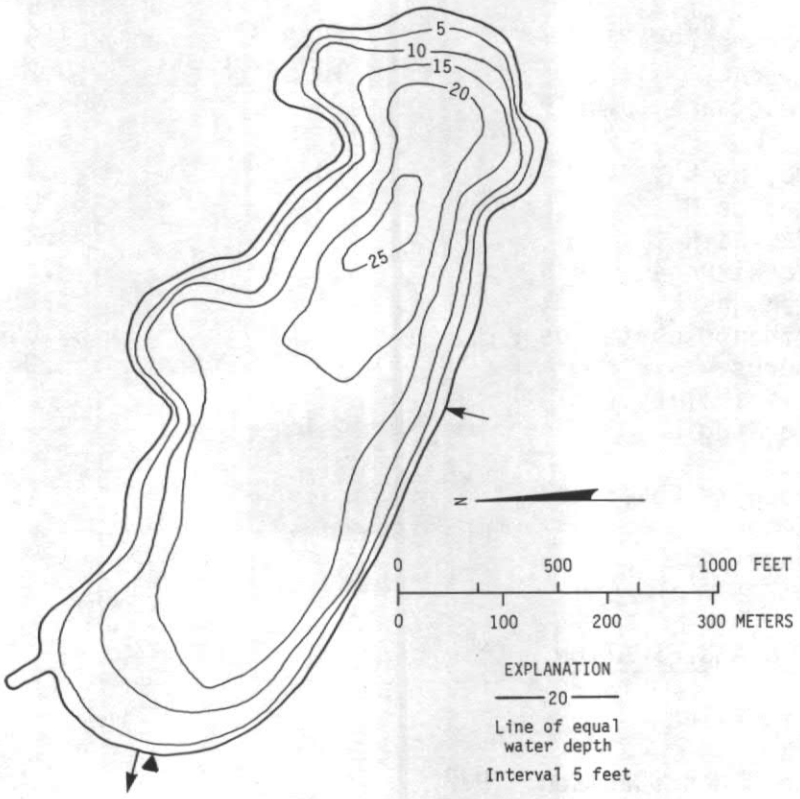
Residential Development	95	pct
Number of Nearshore Homes	89	
Land Use in Drainage Basin		
Residential-Urban	6	pct
Residential-Suburban	50	pct
Agricultural	12	pct
Forest or Unproductive	18	pct
Lake Surface	14	pct
Public Boat Access to Lake	Yes	

WATER-QUALITY DATA (in milligrams per liter unless otherwise indicated)

Date	July 1, 1981	
Depth (ft)	3	17
Water Temperature (°C)	18.5	16.6
Dissolved Oxygen	10.2	7.0
Specific Conductance (umho)	80	81
pH (units)	7.4	7.6
Total Nitrate, as N	0.00	0.00
Total Nitrite, as N	.00	.00
Total Ammonia, as N	.07	.06
Total Organic Nitrogen, as N	1.2	.88
Total Nitrogen, as N	1.3	.94
Dissolved Orthophosphate, as P	.01	.01
Total Phosphorus, as P	.01	.01
Secchi-Disc Visibility (ft)	15	
Chlorophyll a (ug/L)	.93	--
Aquatic Macrophyte Coverage		
Littoral Zone	40 pct	
Water-Surface Zone	5 pct	

LAKE TROPHIC CLASSIFICATION

Characteristic Value	110
Trophic State Index (Carlson, 1977)	
TSI_{SD}	38
TSI_{TP}	37
TSI_{Chl}	30



Serene (28N-4E-34) Lake, Snohomish County. Photo taken July 1, 1981, view southeasterly. Bathymetric map from Washington Department of Game, January 21, 1948.